

FLIGHT

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

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EDITORIAL COMMENT.

The programme of the forty-ninth session of the Aeronautical Society has recently been issued, and appears to be of much more interest than is usually associated with the doings of that body, interesting though its papers and discussions have always been. The programme was published in full in last week's issue of FLIGHT, so there is no need to refer to it in detail. There is one aspect of it which we were glad to note, and that is the greatly increased interest which appears to be taken in the Society and its doings by what we may call the official element in aviation. Out of twelve set fixtures which have been determined upon for the coming session, at no less than seven papers are to be read by, or the meetings presided over by, men who are prominently identified with aviation in an official sense, either as members of the Royal Flying Corps or in some other department of the Government service. This is an exceedingly healthy state of things, for it indicates not only that people in official circles are becoming keen in the pursuit of knowledge, but that they realise that the best way to improve existing knowledge is through the

medium of those interchanges of views which result through the discussion of such papers as are proper to the purposes of a scientific body such as the Aeronautical Society.

It is significant that all the contributions to the Society's work which are to come from officers connected with the Royal Flying Corps are from members of the Military Wing. There is not a single name in the programme which is that of a naval officer, or of an official of the Admiralty. The Navy has always been known as the "silent Service," and we appreciate and agree with the reasons which have led to the making of this reputation. Without any desire to criticise, or to fall foul of a policy which in general terms we are bound to agree with, we cannot help thinking that it is possible to strain a principle too far. Surely there must be officers of the Naval Wing who are in a position to impart knowledge, and to advance views, which would tend towards the common good without giving away aught which could react detrimentally to the public service. However, things are as they are, and in any case we feel that we can congratulate the Aeronautical Society on a very promising programme.

Aviators Under Fire.

The Madrid correspondent of the *Daily Telegraph* has sent to his paper a most interesting despatch, relating the adventures of two Spanish military aviators, who were severely wounded by Moors while carrying out a reconnaissance near Tetuan. The incident is the more interesting, since it is practically the first, so far as there are any records to show, in which an aeroplane has come under serious fire from a hostile force, resulting in injury to pilot or observer. As a matter of record, it is worth while quoting our contemporary correspondent's story of what happened. He says:—

"It was desired to know the number and distribution of the enemy's forces surrounding Tetuan, and to make a reconnaissance of the Anghera and Wad Ras Kabyles. The task of obtaining this information was entrusted to the aviation section, and four aeroplanes started from Tetuan to accomplish the mission. One of the machines was a biplane piloted by Lieut. Rios, accompanied by Engineer-Capt. Manuel Barreiro as observer. They noticed a group of Moors assembled on an eminence known as Mount Conico, close to the Lauzien military post, and Lieut. Rios immediately steered in that direction.

"When she shaped her course for Mount Conico the aeroplane was at an elevation of nearly 3,000 ft. above sea level, but when approaching

the hill the pilot brought the machine down to about 1,000 ft. above land.

"Armed Moors, who watched the movements of the aeroplanes with intense interest, were stationed on the highest peak of Mount Conico. The aviators made a wide sweep towards the Dar Harcha encampment, where the aeroplane sheds are situated, and as they did so the Moors on Mount Conico opened fire, directing a heavy volley upon the machine and its occupants.

"The rattle of the discharge, which reached the ears of the aviators, was quickly followed by the whistling of bullets in unpleasant proximity to them. More shots were fired, some of which pattered on the wings of the biplane, and unfortunately the daring aviators did not escape unhurt. Lieut. Rios was struck by one bullet, and Capt. Barreiro by two, the wounds in both cases being of a serious character."

Apart from its interest as being the first occurrence of its kind, there are other matters which are of even more interest to the student of the aeroplane and its rôle in modern war. It has been said that aircraft form almost impossible targets either for artillery or riflemen, but it would look as though in this case the hostile Moors had either had a great deal of luck with their shooting, or that an aeroplane on the wing is not so hard to hit as we had imagined. There is this to be said, that according to the story as we have quoted it,

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G. LEE TEMPLE.

PILOT.

THE subject of our portrait this week is another self-taught pilot. After meeting with some success as a rider of Singer racing motor cycles, he decided in September of last year to turn his attention to aviation. Securing a couple of Blériot machines, which had seen a fair amount of service, he set to work, and by dint of a good deal of practice mastered the art of flying. He then purchased a 35 h.p. Caudron biplane, on which he qualified for his certificate in February last, and this was followed by the formation of a school at Hendon, through which several pupils passed successfully for their certificates. Several exhibition flights were given last summer by Temple on the Caudron at Manchester and Park Royal. A few

the pilot, Lieut. Rios, seems to have acted with some temerity in bringing his machine to so low an altitude as he appears to have done. We do not know the height of the Mount Conico which is referred to in the report, but it is evidently an eminence of some considerable height, and it may fairly be assumed that the pilot brought his machine down to a level, or nearly so, with the hill-top. Probably, relying on the notoriously bad marksmanship of the Moors, he even brought his machine within point-blank range of them, in which case there is nothing in the way of a lesson to be learnt from the incident, save that temerity in war inevitably brings its punishment, whether it is indulged in on land, or water, or in the air. Risks, we know, have to be taken, but there is nothing worse than under-estimating the enemy. If you know his limitations absolutely, you may take risks which in face of a foe who knows his business would be suicidal, but you must be very sure of them before you take the risks. What seems to have happened in this case is that the Spanish pilot and his observer did not accurately assess those limitations, and they suffered accordingly.

months ago, having sold his interest in the school, Temple purchased a 50 h.p. two-seater Blériot, and flew it, in very bad weather, from Issy to Hendon. With this machine he gave a series of very fine exhibition flights at Hull last month, the machine on one occasion being unable to make any headway against the high wind. Temple has also flown the machine at Acton a good deal, as well as making several cross-country trips such as Hendon-Brooklands. He usually flies very high, and latterly has made some very fine *vol planés*, while his latest achievement, as recorded elsewhere, is to fly the Blériot partially on its back.

"THE HAWK."



Capt. Longcroft, whose splendid record flight is recorded this week, starting off from Montrose for his non-stop run to Portsmouth and Farnborough on one of the B.E. biplanes, built by the Bristol Co.

NOVEMBER 29, 1913.

FLIGHT

MEN OF MOMENT IN THE WORLD OF FLIGHT. British Pilot.

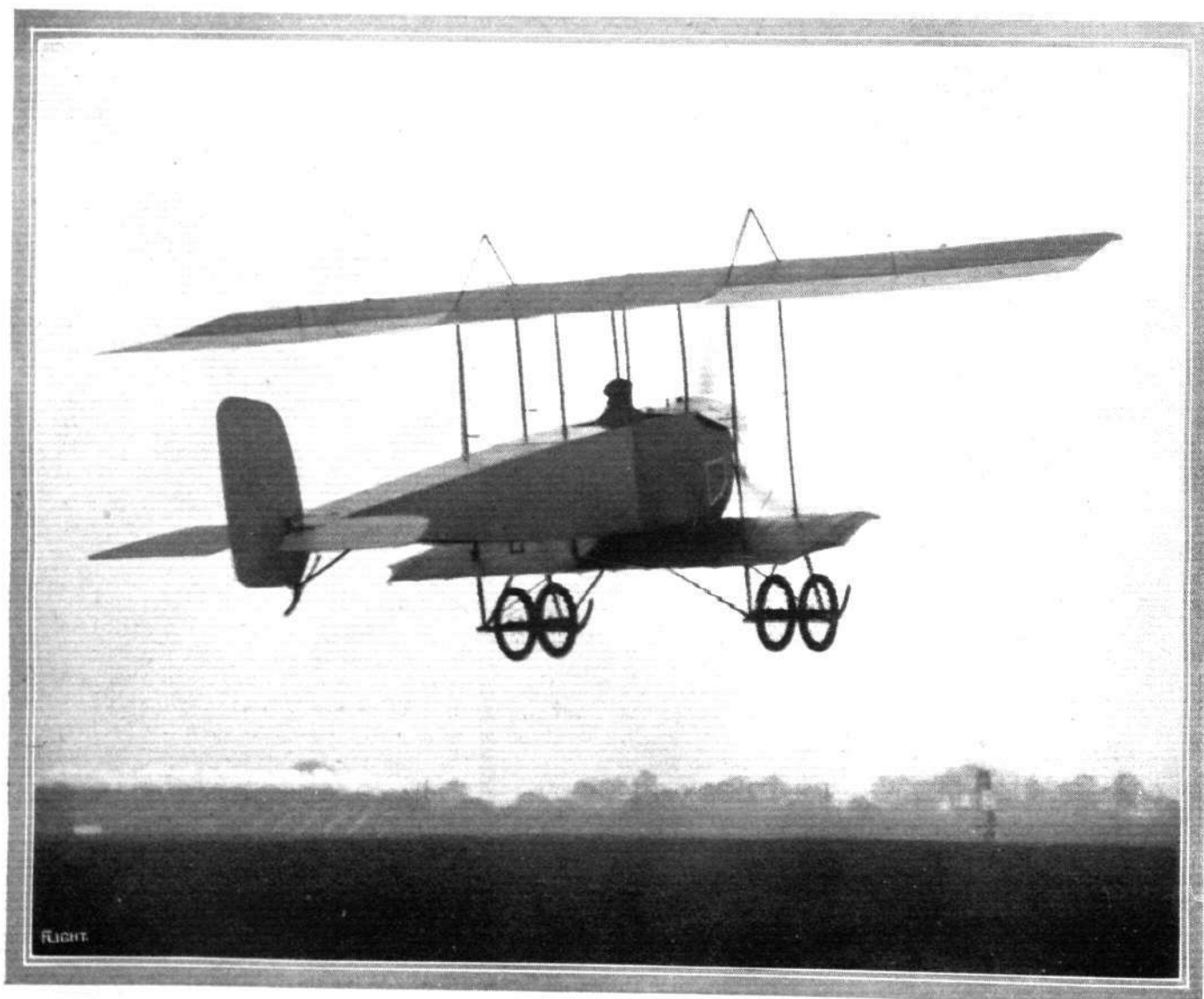


MR. G. LEE TEMPLE.

FLYING AT HENDON.

THE Second November Meeting at Hendon last Saturday was an exceedingly busy and interesting one, for in the bare two hours that this time of the year gives us now for our afternoon's amusement, some twenty flights were put up, in addition to a splendid cross-country handicap. The attendance at these meetings still continues to be extremely good, especially in the cheaper enclosures. Just before 2.30 p.m. the speedy 80 h.p. Avro biplane arrived from Brooklands, carrying a passenger, and with P. Raynham in the pilot's seat, the descent into the aerodrome being made with a fine spiral. As they landed Pierre Verrier went up on the Maurice Farman and gave one of his brilliant displays. Shortly after, Raynham took up a passenger on the Avro, and R. H. Carr, with his "motor-man" and a lady and gentleman as passengers, followed on the 100 h.p. Green-G.-W. 'bus. W. Birchenough, W. Strange (the latest G.-W. pilot), on the 50 h.p. G.-W. 'buses, Verrier on the Maurice Farman, and R. Slack on the 80 h.p. Morane-Saulnier came out immediately after. In the meanwhile "something" was attracting a small crowd towards the far end of the Grahame-White sheds. This proved to be "Lizzie," the new 50 h.p. tractor one-and-a-half-plane undergoing an engine test preparatory to the first trial flight. The engine having been run for a few minutes, Louis Noel, who sat in the pilot's seat, gave the signal to let go, and after a fairly short run, the machine left the ground and completed several circuits of the aerodrome in fine style for the first time of asking. Next to the Dunne, this machine when in flight is the strangest looking aircraft we have seen, although it is really not so very much out of the ordinary. It has a Morane-Saulnier type fuselage and tail, and the same main planes that went to make up the 35 h.p. "Popular" pusher biplane turned out by the

Grahame-White Co. some little time back. The top plane, which measures 28 ft. span, is mounted high above the fuselage, whilst the lower plane, which has a span of 14 ft., is situated immediately below the bottom longerons. The planes are separated by four pairs of struts and are some 6 ft. apart. A Farman-type landing chassis is employed. On landing, Noel said his new mount was extremely sensitive on the controls, but otherwise behaved splendidly. After this interesting flight, F. W. Goodden ascended on the 35 h.p. Scotch Caudron, Gordon Bell took over the Avro and put up a splendid flight, and Marcus D. Manton came out on his 50 h.p. G.-W. 'bus with a passenger suspended in an extra seat below the pilot and only a few feet from the ground. This additional seat is intended for a "gunner," who will have a gun mounted in front of him. N. Spratt and G. M. Dyott also gave demonstrations on the Breguet biplane and Dyott monoplane respectively. By this time it was 3.30 p.m., and Raynham ascended on the Avro and steered off in the direction of Brooklands, after which a start was made for the cross-country handicap. This was over the four circuit Bittacy Hill course, a distance of about 16 miles. Nine entered for this race and with one exception started, as follows:—W. Strange on a 50 h.p. G.-W. 'bus (10 mins. 10 secs.), W. Birchenough also on a 50 h.p. G.-W. 'bus (9 mins. 40 secs.), Marcus D. Manton on the "three-seater" 50 h.p. G.-W. 'bus (7 mins. 25 secs.), N. Spratt on the Breguet (3 mins. 40 secs.), Louis Noel on the one-and-a-half-plane (3 mins. 25 secs.), Pierre Verrier on the 70 h.p. Maurice Farman (3 mins.), G. M. Dyott on his 50 h.p. Dyott mono. (1 min. 38 secs.), W. L. Brock on the 80 h.p. Blériot with a passenger (40 secs.), and R. Slack on the 80 h.p. Morane-Saulnier. Spratt was a non-starter, but the others got away without incident.



Mr. Louis Noel racing on the new Grahame-White tractor biplane, known down Hendon way as "Lizzie." He created a record by winning, on a new type of machine the first time out, the race in which he took part.

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"Lizzie" got off in fine style, after a run of only a few yards. At the end of the first circuit Strange and Birchenough rounded the pylon like the Siamese twins—except that they were literally one on the top of the other. Verrier only completed one circuit, and Birchenough retired on the third lap. Noel brought "Lizzie" close round the pylon at the end of each circuit with clock-work regularity and easily overhauled Strange and Manton, finally crossing the line first, with Dyott 16 secs. behind, and Slack, who made a fine effort from scratch, 7 secs. after Dyott. Brock came in

fourth, and would certainly have done better had he not flown so high and wide. The extra head resistance of Manton's third seat appeared to slow him down somewhat, for he came in 50 secs. after Brock, but 28 secs. ahead of Strange. Immediately after the cross-country race, Gustav Hamel went up with a passenger on his 80 h.p. Blériot, upon which he subsequently made several flights. Six other pilots then ascended and circled the aerodrome together. These were Birchenough, Strange and Manton on G.-W. 'buses, Carr on the 100 h.p. 'bus with passengers, Brock on the 80 h.p.



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Mr. Manton, with a passenger in the underslung seat of his Grahame-White biplane at the London Aerodrome, Hendon.—A strange optical illusion may be noticed in this picture. Whilst looking at it the picture appears to change. Sometimes you seem to be viewing the planes from above and sometimes from beneath.

Blériot, and Slack on the Morane-Saulnier. Philippe Marty then made a flight on Brock's Blériot, his landing with a strange machine being excellent. The proceedings were brought to a close by Gustav Hamel bringing out his Morane-Saulnier with which he intended to fly upside down and loop the loop, and which had been strengthened for this purpose. He ascended to a height of some thousand feet or so, and made two exceedingly steep dives and also banked the machine until the wings were vertical. He did not, however, attempt anything further than this. The times and handicaps of the cross-country handicap are given below:—

Cross-Country Handicap. (16 miles.)

	Handicap.		Time.	
	m.	s.	m.	s.
1. Louis Noel (50 h.p. G.-W. tractor biplane)	3	25	24	55
2. G. M. Dyott (50 h.p. Dyott monoplane) ...	1	38	25	11
3. R. Slack (80 h.p. Morane-Saulnier mono- plane) scratch			25	18
4. W. L. Brock (80 h.p. Blériot monoplane)...	0	40	25	58
5. Marcus D. Manton (50 h.p. G.-W. biplane)	7	25	26	48
6. W. Strange (50 h.p. G.-W. biplane) ...	10	10	27	16

Sunday turned out to be very foggy up at Hendon, but for all that it was one of the most interesting days that has been seen for some time, for seven flights were made under very adverse, not to

say risky, conditions. Standing by No. 1 pylon, at times one could only just discern the sheds opposite, so it will be seen that the pilots had some difficulty in keeping clear of the pylons, &c., to say nothing of landing. A good number of visitors turned up, mainly, no doubt, in the hope of seeing Gustav Hamel or G. L. Temple fly upside down, for both these pilots were in readiness for this new form of flying, in fact G. L. Temple had previously announced his intention of doing so on the Sunday. It was, impossible, however, under the circumstances, to attempt such a manoeuvre as flying upside down when objects only a few hundred feet off were invisible, so those present had to be content with simple circuits of the aerodrome by those plucky pilots who ventured out. The first up was W. Birchenough, on the 50 h.p. G.-W. 'bus. After completing several circuits, his machine looming into view for a space of a few seconds only, he effected a safe landing, and soon after Claude Grahame-White went up on the other 'bus. After this, Grahame-White again took over the 'bus, and made two passenger flights. As soon as he completed his last flight, R. H. Carr ascended on the other 'bus and put up a few circuits. After a short interval J. L. Hill made a short flight on his 35 h.p. Caudron, and then came a weird finish up. Mr. R. T. Gates took over the 'bus and did some of his flying in ragtime! Although one could hear his engine all the time, he kept lurching into view from the most unexpected quarters and then swooping out again. Surely this afternoon was a remarkable demonstration of the abilities of the modern air-pilot.



G. LEE TEMPLE UPSIDE-DOWN.

G. LEE TEMPLE is possessed of one of the favours which the gods bestow upon the few and fortunate, and, if I may be allowed to express an opinion, he does not seem to realize it; I refer to the fact that he is young for his age.

To some of us who are beginning to put on our autumn tints it would indeed be welcome, but to Temple it seems to be a source of grief, and worries him no end. He is nearly always spoken of as the boy aviator, and in one instance I have seen him referred to as the baby aviator, and if he could only realise it, this is rather to his advantage as an advertisement than otherwise, but he always seems hurt that people won't think of him as a man.

He is a man of course, in years. There are others really younger than he in aviation, but somehow they are looked upon as men when he is not, and this should be one of his greatest assets.

I remember that only a couple of years or so ago, Mr. Gustav Hamel was always looked upon as a boy aviator, looking as he did, so young and fair, but I am quite sure it has not had any adverse effect on his career as a flyer, but perhaps the opposite.

Mr. Temple has flown upside-down, and as the first Englishman to do so in England, is entitled to all the credit that may happen to be attached thereto, and I am quite sure none grudge it him in full. In addition he is a plucky little chap. He taught himself to fly and struggled through many disheartening periods unaided. The alterations necessary to his machine to enable him to imitate Pegoud were carried out in his own shed, and he set out to do it or die. I quite realise what his feelings must have been at that moment, when he said to himself, "It is five to three now, when it is five past I will do it," and later "Now or never." Had it been me, it would have been never; but Temple pushed the nose of his machine down, and in thirty seconds he had won through—he had flown upside-down and was

safely landed. It was a splendid feat for one with only such small experience as he, and he had not any very definite knowledge as to whether he had really been upside-down or not, and none at all as to how he got back again, as he admits himself; but there were some on the ground, with experience sufficient to enable them to judge, who will agree with me that he is very lucky to be alive, and wish with me that he will now be satisfied and leave it alone—at any rate, for a time.

The wind was blowing rather strongly from the direction of Temple's shed towards the railway, and I guessed that he would turn opposite his hangar and commence his dive there, so that the wind would tend to drift him into the aerodrome and not out of it, and this he did. He came up against the wind, and, making a short spiral turn and dive, commenced to get into the vertical position before he had really finished turning, and this to my mind was the reason his performance was not quite so neatly done as it would otherwise have been. He quietly got his machine into the vertical, and from that into a position over the vertical, but the swing of the tail had not finished and the machine, instead of dropping straight down nose first, commenced a horrible side-slip which continued for quite an appreciable time, during which the elevator was not in a position to have much effect, and Mr. Temple says himself that he pulled it backwards and forwards but could feel no resistance, though he does not seem to know why. Bringing the rudder hard over would no doubt have squared things up, but eventually the weight of the engine had the same effect, though not before Temple was much nearer the ground than was pleasant both for himself and for the onlookers. Once he had the machine purely nose-down again, he quickly regained control and made a good landing. He is clever, he has pluck and nerve, and will make a first-rate pilot—if he will only try not to go too fast.

H.E.S.

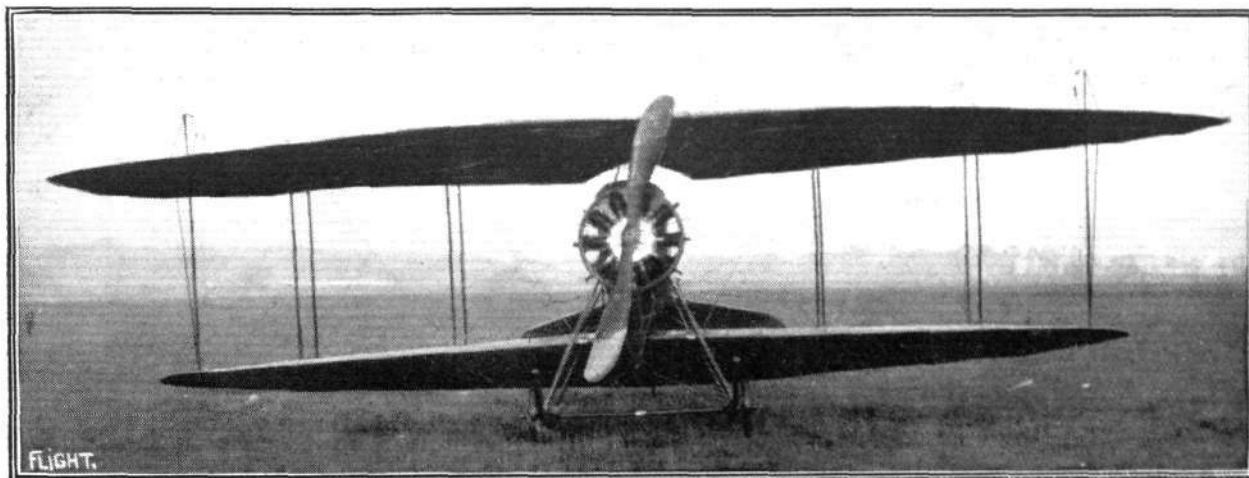


The Michelin Cup for 1914.

THE AERO CLUB OF FRANCE is at present considering the conditions of next year's competition for the International Michelin Cup. Tentatively it has been decided that it shall take the form of a tour

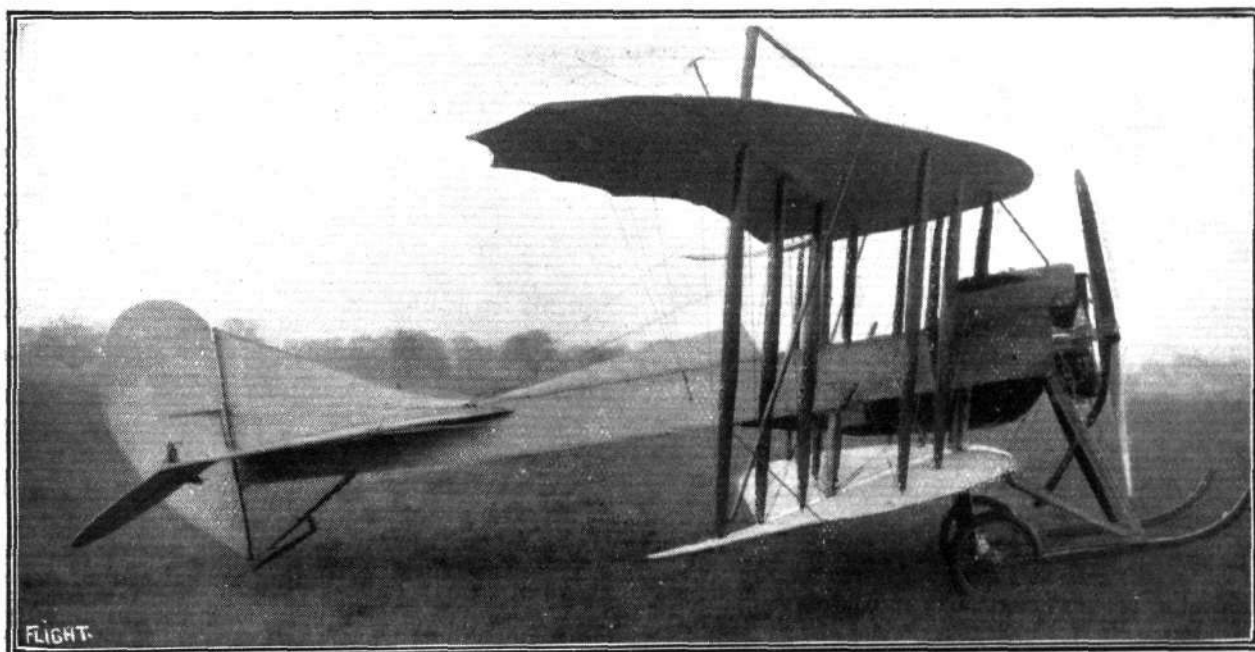
of France of at least 3,000 kiloms., the winner to be the competitor completing the course in the best time. There would be controls at various points very much the same as in the Round Britain Contest.

THE NEW HANDLEY PAGE BIPLANE.



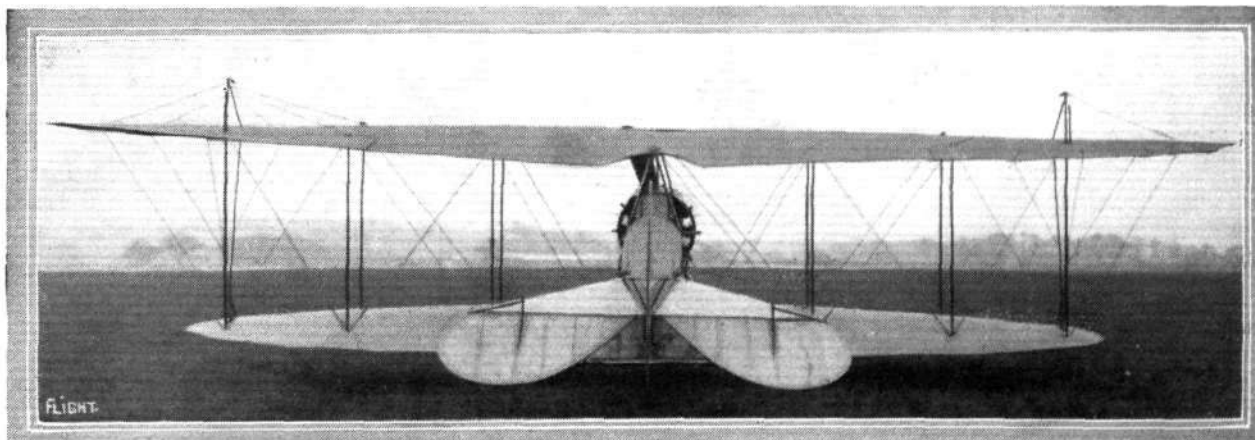
The new Handley Page biplane, as seen from the front.

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THE NEW HANDLEY PAGE BIPLANE.—General view from the side.

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THE NEW HANDLEY PAGE BIPLANE.—A view from the back.

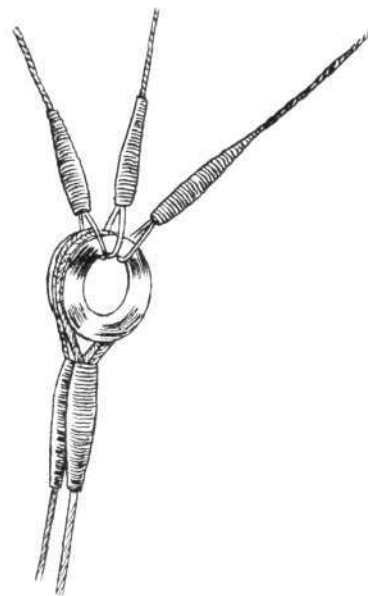
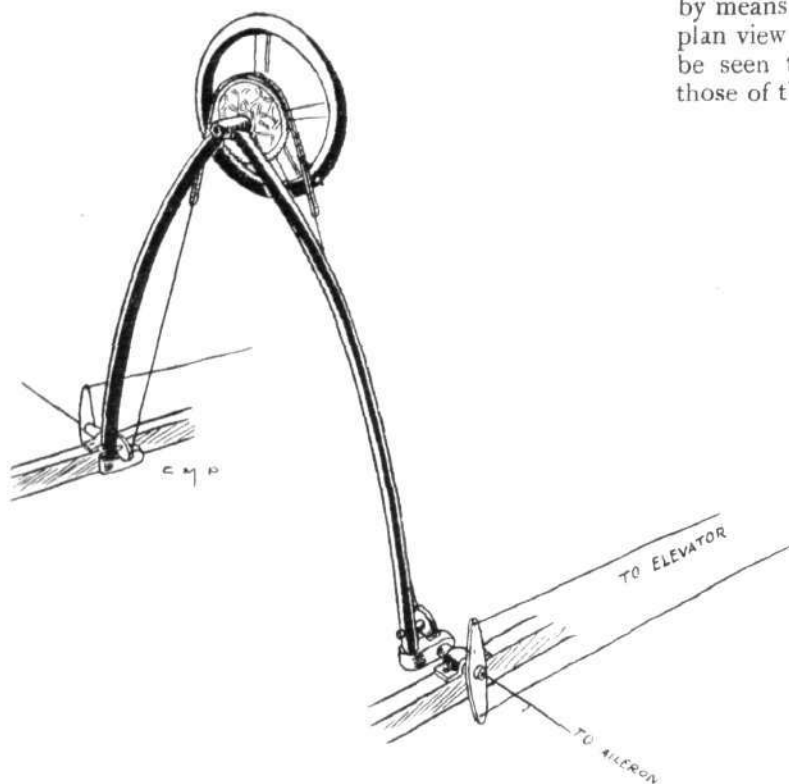
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THE NEW HANDLEY PAGE BIPLANE.

WHEN looking back to the early days of aviation, for such has been the progress, that Blériot's flight across the channel seems now—only four years later—a thing of the dim and distant past, one remembers a comparatively small monoplane designed and built by Mr. Handley Page. It was said to be inherently stable, and at the Aero Show

all-round utility the machines hitherto turned out by that firm.

The fundamental principles underlying the design of this machine are the same as those which were the *raison d'être* of the monoplanes, *i.e.*, an attempt has been made to solve the problem of natural inherent stability by means of a certain design of wing form. From the plan view of the accompanying scale drawings, it will be seen that the wings do not differ materially from those of the monoplanes, the back swept wing tips which



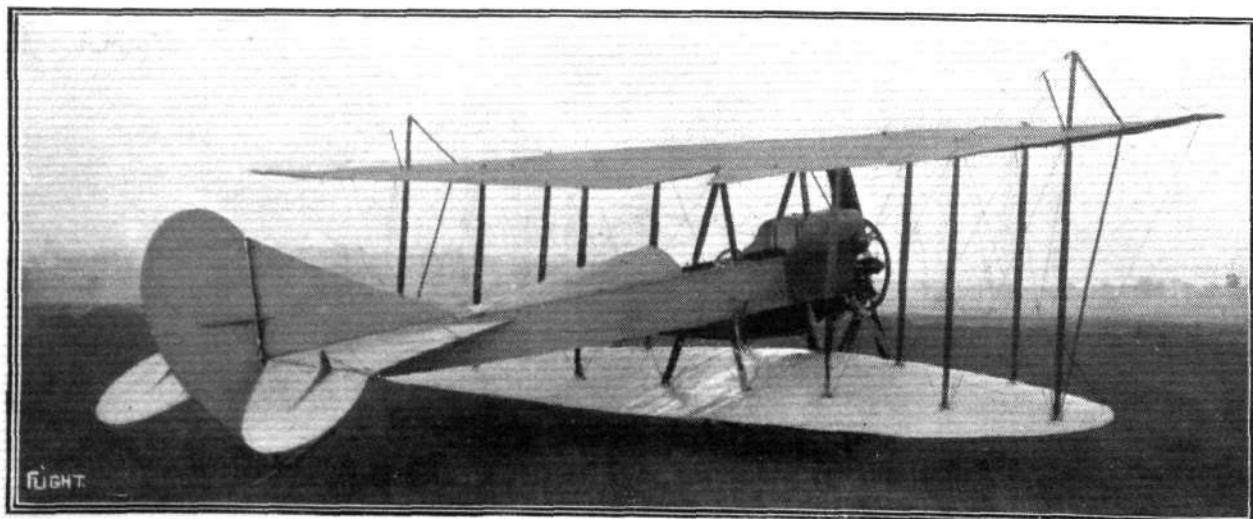
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DIAGRAMMATIC SKETCH OF CONTROLS ON THE H.P. BIPLANE.—On the right, sketch showing method of attachment of aileron wires to control cables.

at Olympia—in 1911 we think it was—there was shown a small monoplane with crescent shaped wings and streamlined fuselage. Since then the Handley Page machines have developed both in general airworthiness and in size, until it has now been found more expedient to make a biplane, as constructional difficulties naturally put a limit to the size to which it is convenient and advisable to build monoplanes. And if her first performances are to be taken as a criterion this latest product of the Handley Page firm bids fair to surpass in

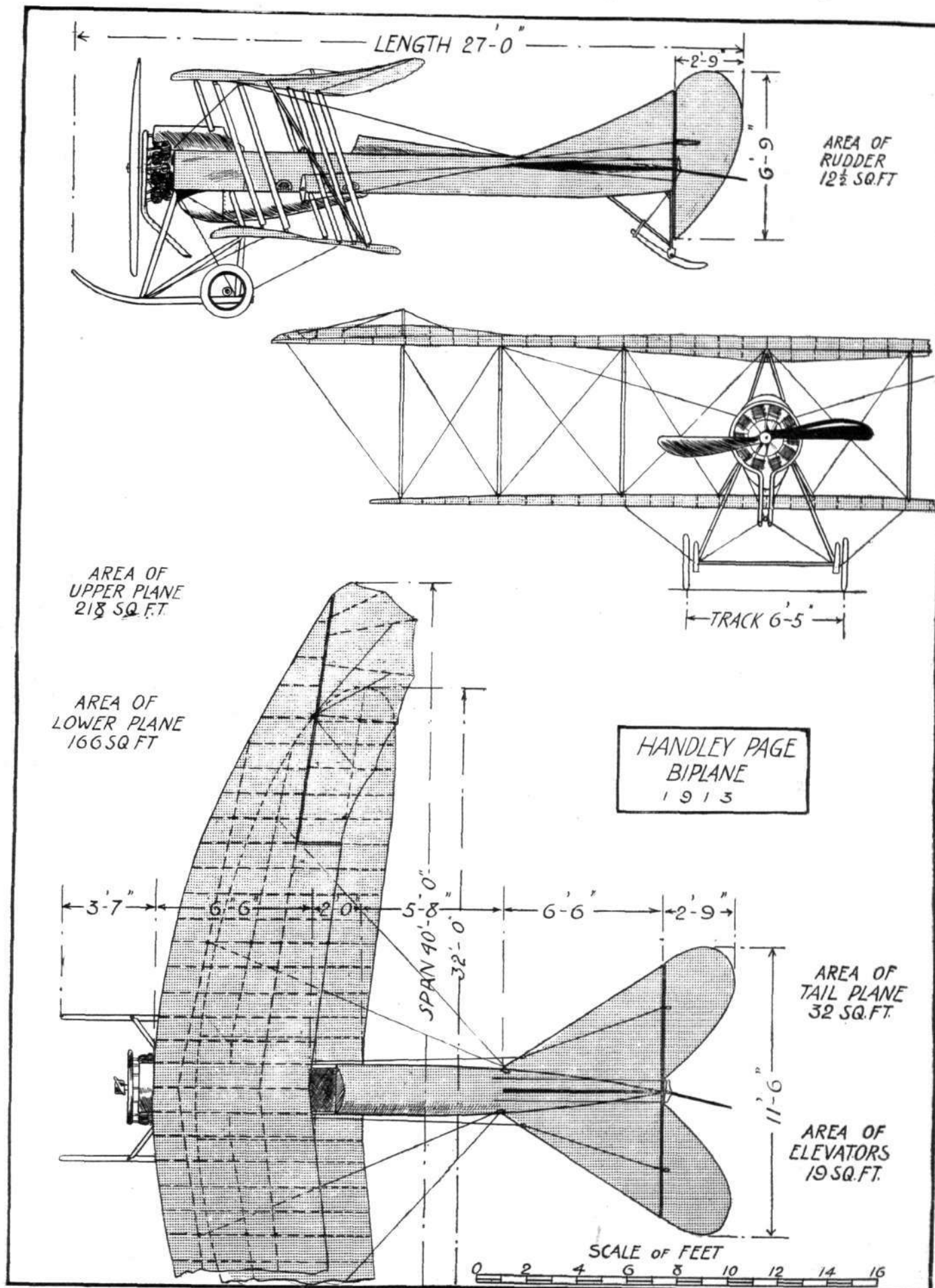
are set at a negative angle of incidence being practically of the same shape as the tips of the earlier machines. In section the wings differ considerably from the monoplane wings, being much thinner and having a smaller camber.

It is to the curvature of the wings that the stability of the machine is due, as, according to its designer, Mr. Handley Page, the particular curve is so designed that when the machine attempts to climb too steeply, or, in other words, the angle of incidence increases, the centre



THE NEW HANDLEY PAGE BIPLANE.—A three-quarter view from the back.

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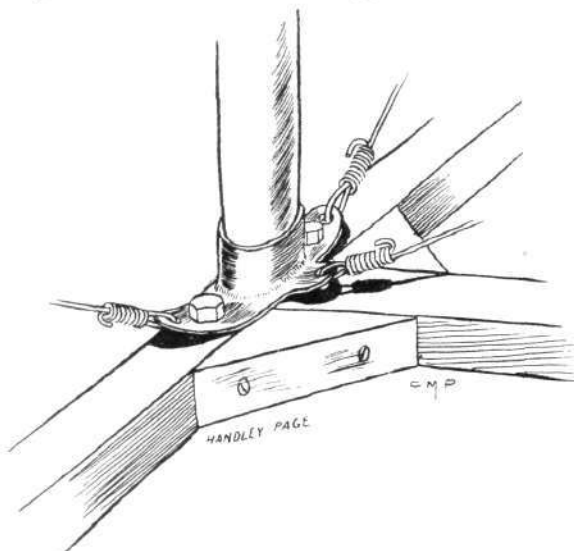
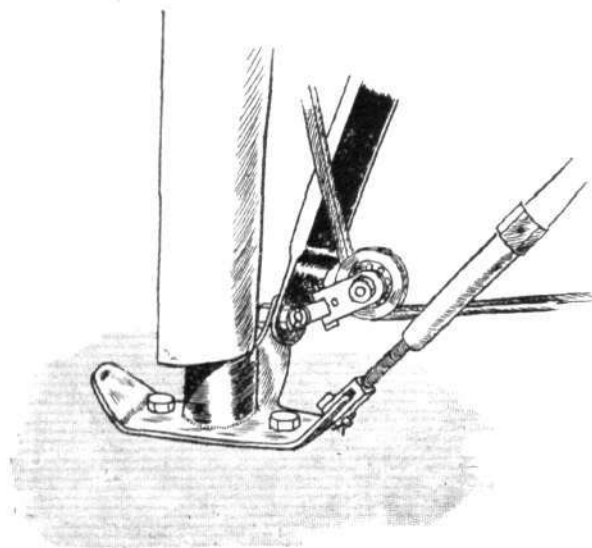
THE NEW HANDLEY PAGE BIPLANE.—Plan, side and front elevation to scale.

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of pressure moves backwards, thus bringing the machine back to its normal position. Similarly if the machine begins to dive the centre of pressure moves forward, and thereby tends to restore balance. Mr. Handley Page is of the opinion that the machine would fly without the tail planes, and only fits them as an extra precaution, and to gain greater controllability. Constructionally the wings differ considerably from what has now become more or

having spars tapering towards the tip the camber is gradually decreased. In the lower plane the angle of incidence diminishes from 4° at the root to no angle of incidence at the tips. The upper plane also has a maximum angle of incidence of 4° at the root, but has a negative angle of incidence at the tips.

Although the machine is claimed to be inherently stable, *aileron*s are fitted to the upper main plane, so that



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One of the strut sockets on the H.P. biplane showing pulley for aileron cable, and on the right a fuselage joint.

less standard practice. There are two main spars, both of I section, the front one of which is made of spruce, whilst the material used in the rear spar is ash. In addition to these two main spars there are four subsidiary spars of the lattice-girder type, which serve to support the ribs. These latter consist of two thin strips of wood secured to the upper and lower edges of the spars respectively. These strips correspond with the flanges of the ribs in the majority of machines. No webs are employed, and the shape of each individual rib is determined by the depth of the various spars. Thus by

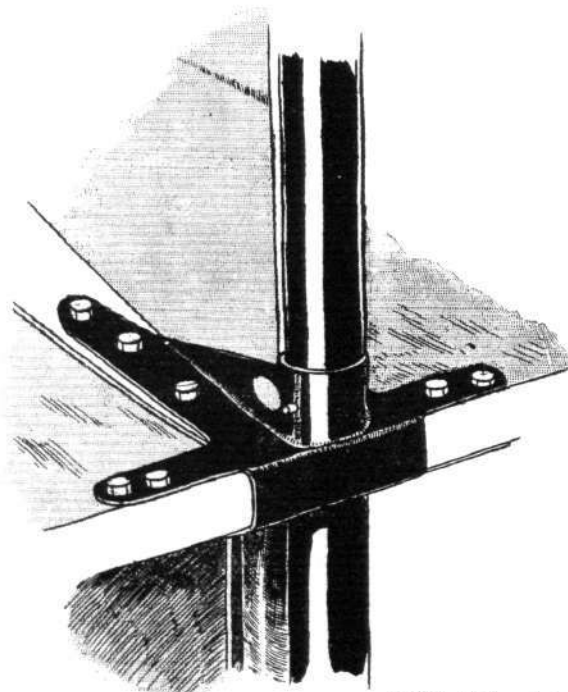
should the pilot desire to right the machine he is able to do so. This is, we think, a very good arrangement, and does not by any means indicate that the designer lacks faith in the stability of his machine, but most pilots, we feel sure, prefer a machine which it is possible to right, should need arise, by means of the usual controls, no matter how stable the machine may be.

From the accompanying illustrations, it will be seen that the planes are staggered forward. The reason for this is that by staggering the planes the gap can be considerably



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THE NEW HANDLEY PAGE BIPLANE.—View showing the chassis, engine mounting, &c.

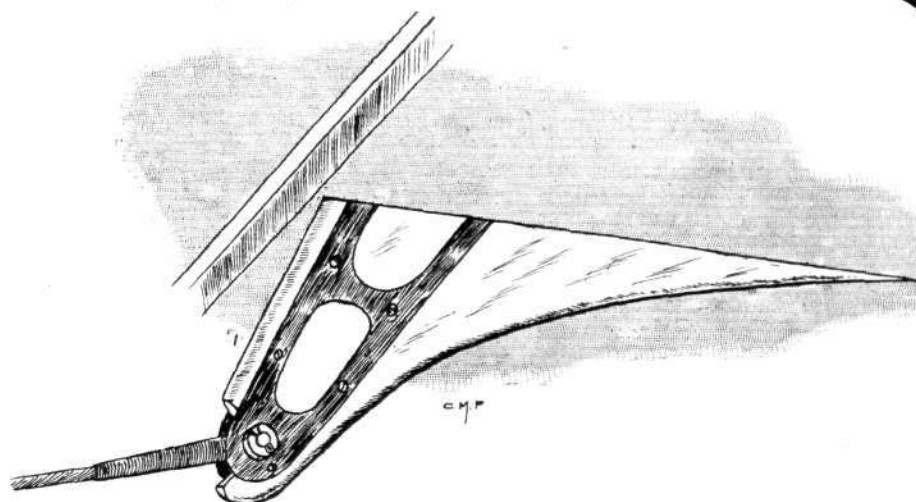


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Sketch showing the neat steel clip by means of which a joint is formed for the tail fin, rudder post, tail plane and fuselage on the H.P. biplane.

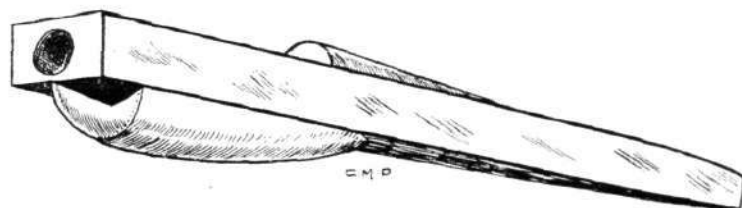
smaller without danger of interference, or, in other words, for the same gap and chord a greater lift is obtained.

Two pairs of A struts of spruce connect the main planes and the fuselage. Four more pairs of struts connect the planes in the usual way, whilst near the tip of the lower wing is a single strut running to the rear spar of the upper plane. From the joint of this single strut to the lower plane a steel tube runs up to the leading edge of the upper plane. Very stout stranded cable is used for the diagonal bracing of the wings as well as for taking the drift. Other cables run from the fuselage at a point near the beginning of the tail plane to the inter-plane struts, thus bracing the wings backwards to the fuselage.



One of the elevator crank levers on the H.P. biplane.

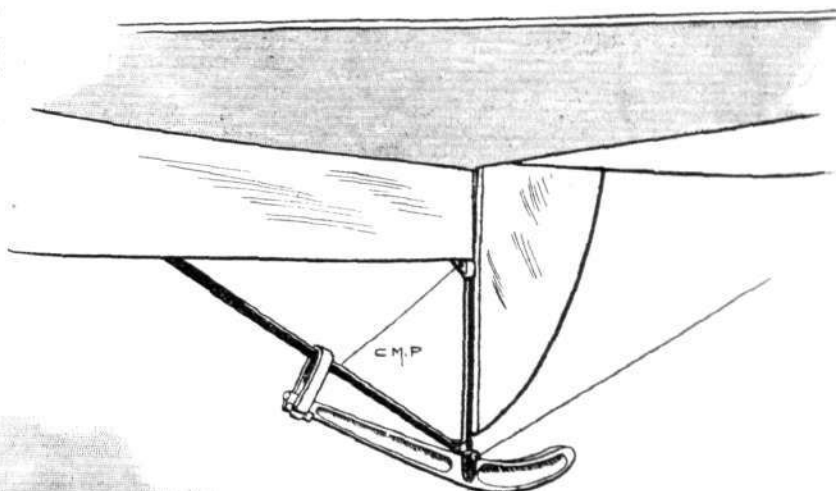
One of the accompanying illustrations is a diagrammatic sketch of the fuselage, and shows the shape of that structure. Constructionally it consists of four longerons of ash connected by struts and cross-members of spruce, the whole being made rigid by means of the usual diagonal cross bracing. To a steel capping plate bolted to the front of the four longerons is secured the engine—a 100 h.p. 10-cyl. Anzani, which drives an Integral propeller of 8 ft. 6 ins. diameter, 5 ft. 6 ins. pitch. The pilot's and passenger's seats are arranged tandem fashion, the pilot occupying the rear seat. Both seats are supported on the lower longerons, and the legs of the occupants project down into the boat-shaped structure underneath the fuselage. One of our sketches illustrates the controls,



Diagrammatic sketch of the fuselage, and on the right the tail planes on the H.P. biplane.

which consist of a rotatable hand wheel operating the elevator and ailerons, and a foot-bar for actuating the rudder. The tail planes, it will be noticed, are similar to those on the monoplane, and are made of ample size in order to render them more effective, situated as they

are, comparatively close to the main planes. The chassis is of the wheel and skid type, with two stout ash skids supported on three pairs of struts of spruce. A

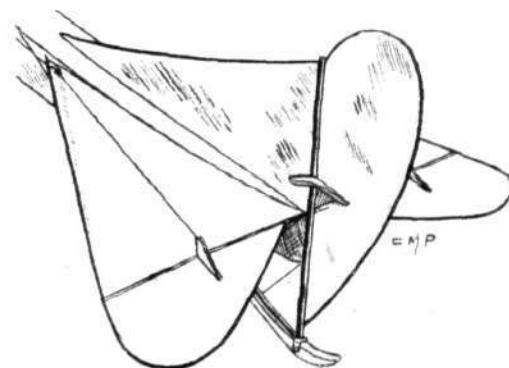


"Flight" Copyright.

The tail skid of the H.P. biplane.

single axle carrying the wheels is slung from the skids by means of rubber shock absorbers, and two radius rods from the front struts to the axle keep the latter in place. Diagonal cross wiring and cables running to the lower extremities of the two first pairs of the inter-plane struts prevent the chassis from giving laterally. A short strong ash skid protects the tail planes against contact with the ground.

In front of the pilot is to be fitted a dashboard with all the usual instruments, such as aneroid, clock, compass, revolution indicator, and air-speed indicator. The tanks contain sufficient petrol and oil for a four hours' flight, and the weight of the machine with this and pilot and passenger is 1,775 lbs. The speed of the machine has not yet been ascertained, but she appears to be fairly fast, and seems to climb very well. She has been designed for exhibition work, and the conditions to be fulfilled are good climbing capacity—in order to be able to get out of



"Flight" Copyright.

small fields—and slow landing speed. The machine has been built for an exhibition company in the north of England, and as soon as she has been put through her trials by Mr. Whitehouse, she will be delivered to the purchasers.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Committee Meeting.

A MEETING of the Committee was held on Tuesday last, November 25th, 1913, when there were present:—Col. H. C. L. Holden, C.B., F.R.S., in the Chair, Mr. Griffith Brewer, Mr. Ernest C. Bucknall, Prof. A. K. Huntington, Mr. J. T. C. Moore-Brabazon, Mr. Alec Ogilvie, Mr. C. F. Pollock, Mr. A. Mortimer Singer, Mr. R. W. Wallace, K.C., and the Secretary.

New Members.—The following new Members were elected:—Francis Percy Adams, R. Metcalfe-Smith, Lieut. Anson Paul Northey and Herbert Chevenix Trench.

Aviators' Certificates.—The following Aviators' Certificates were granted:—

- 683 Acting-Lieut. Rupert Healey Walley, R.N.R. (Maurice Farman Biplane, Central Flying School, Upavon). Oct. 21st, 1913.
- 684 Chief-Armourer Charles Hart Whitlock, R.N. (Bristol Biplane, Naval School, Eastchurch). Nov. 1st, 1913.
- 685 Sergt. Fred Farrer, R.F.C. (Maurice Farman Biplane, Central Flying School, Upavon). Nov. 7th, 1913.
- 686 Lieut. The Hon. Herbert Lyttelton Pelham (2nd Bn. Royal Sussex Regt.) (Vickers Biplane, Vickers School, Brooklands). Nov. 11th, 1913.
- 687 Lieut. Hugh Frederic Treeby (West Riding Regt.) (Bristol Biplane, Bristol School, Brooklands). Nov. 16th, 1913.
- 688 2nd Lieut. William Ralph Elliot Harrison, R.F.A. (Bristol Biplane, Bristol School, Salisbury Plain). Nov. 21st, 1913.
- 689 Henry Spencer Newton Courtney (Bristol Biplane, Bristol School, Salisbury Plain). Nov. 22nd, 1913.
- 690 Lieut. Robert John Ferguson Barton (Royal Scots Fusiliers), (Vickers Biplane, Vickers School, Brooklands). Nov. 24th, 1913.

The following Aviators' Certificates were passed in France:—

M. H. Lockwood,
H. A. F. Yates.

Aeronaut's Certificate.—The following Aeronaut's Certificate was granted:—

- 37. Lieut. A. Corbett Wilson, R.F.A.

Airship Pilot Certificate.—The following Airship Pilot Certificate was granted:—

- 22. Lieut. A. Corbett Wilson, R.F.A.

British Empire Michelin Cup No. 1 £500.—The Committee, after examining the Observers' Reports and Certificates relating to the aeroplane, unanimously awarded the Prize of £500 and Trophy offered by the Michelin Tyre Co., to Mr. Reginald Hugh Carr.

Mr. Carr, on November 6th, 1913, made a flight of 300 miles between Hendon and Brooklands, alighting every 60 miles. The aeroplane, constructed by the Grahame-White Aviation Co., Ltd., was fitted with 100 h.p. Green Motor, Zenith Carburettor, British Bosch Magneto, Sphinx and Aster Sparking Plugs and Lang Propeller.

Aviators' Certificates.—The new regulations for Aviators' Certificates, passed by the Fédération Aéronautique Internationale, and which come into force on January 1st next, were considered and ordered to be issued to the various Aviation Schools as early as possible. (The regulations will be found in these Notices).

Suspension of M. Ernest Guillaux.—Letter was read from the Fédération Aéronautique Internationale, notifying the suspension of M. Ernest Guillaux, a French aviator, from taking part in any sporting events for a period of ten years from November 7th, 1913.

Aviators' Certificates.

NEW REGULATIONS.

Special attention is drawn to the new regulations for Aviators' Certificates, which come into force on January 1st, 1914.

Revised forms for Observers are being prepared, and will be issued to the Aviation Schools shortly. In the altitude flight a maximum reading aneroid must be carried by the candidate. Aviation Schools please note.

FÉDÉRATION AÉRONAUTIQUE INTERNATIONALE.

AVIATORS' CERTIFICATES.

The Sporting Authority governing aviation in each country represented on the F.A.I. can alone grant Aviators' Certificates to all candidates, of at least 18 years of age, and coming under its jurisdiction.

- 1. To candidates of the same nationality as the Club.

- 2. To foreigners belonging to a country not represented on the F.A.I.

- 3. To foreigners of a country represented on the F.A.I.; but in this case the certificate can only be delivered with the authorisation of the Sporting Authority of the candidate's country.

The Royal Aero Club of the United Kingdom will grant certificates in accordance with the regulations of the Fédération Aéronautique Internationale to candidates who have complied with the following rules:—

Rules.

- 1. Candidates must accomplish the three following tests, each being a separate flight:—

A and B.—Two distance flights, consisting of at least 5 kilometres (3 miles 185 yards) each in a closed circuit, without touching the ground or water, the distance to be measured as described below.

C. One altitude flight, during which a height of at least 100 metres (328 feet) above the point of departure must be attained; the descent to be made from that height with the motor cut off. The landing must be made in view of the observers.

- 2. The candidate must be alone in the aircraft during the three tests.

- 3. Starting from and alighting on the water is only permitted in one of the distance flights A or B.

- 4. The course on which the aviator accomplishes flights A and B must be marked out by two posts or buoys situated not more than 500 metres (547 yards) apart.

- 5. The turns round the posts or buoys must be made alternately to the right and to the left so that the flight will consist of an uninterrupted series of figures of 8.

- 6. The distance flown shall be reckoned as if in a straight line between the two posts or buoys.

- 7. The alighting after the two distance flights in tests A and B shall be made:—

(a) By stopping the motor at or before the moment of touching the ground or water;

(b) By bringing the aircraft to rest not more than 50 metres (164 feet) from a point indicated previously by the candidate.

- 8. All alightings must be made in a normal manner, and the observers must report any irregularities.

- 9. Each of the flights must be vouched for in writing by observers appointed by the Royal Aero Club. All tests must be under the control of, and in places agreed to by, the Royal Aero Club.

- 10. The Royal Aero Club declines all responsibility for any accidents, or any damage that may occur to the aviators, their aircraft, or to any third parties during or in connection with the qualifying tests of the candidate.

- 11. Candidates must make application on a form provided for that purpose, and this form must be sent to the Royal Aero Club prior to the tests being made. Any expenses incurred must be borne by the candidates.

- 12. Foreigners belonging to a country represented on the Fédération Aéronautique Internationale can only receive a certificate from the Royal Aero Club with the consent of their national sporting authority. A certificate may be granted to a foreigner whose country is not represented on the Fédération Aéronautique Internationale.

- 13. The Committee of the Royal Aero Club will decide if the candidate has qualified for a certificate, but reserves the right to refuse the same or withdraw the same at any time without giving reasons.

- 14. The decision of the Committee of the Royal Aero Club in all matters connected with the tests is final and without appeal.

International Aero Exhibition, 1914.

In connection with the International Aero Exhibition to be held at Olympia in March, 1914, a section for Models, under the patronage of the Royal Aero Club, will be organised by the Kite and Model Aeroplane Association.

The prizes in the following classes will be given by the Royal Aero Club:—

- 1. Power-driven Models (excluding rubber and spring motors):—1st Prize, £10; 2nd Prize, £5.

- 2. Models driven by any other motive power:—Section (a). 1st Prize, £5; 2nd Prize, £3; 3rd Prize, £1. Section (b). 1st Prize, £2; 2nd Prize, £1.

3. Hydro-aeroplane Models:—1st Prize, £4; 2nd Prize, £3; 3rd Prize, £1.

4. Model Aero Motor:—One Prize, £5.

5. Single Screw Tractor Models:—1st Prize, £3; 2nd Prize, £2; 3rd Prize, £1.

6. Weight Carrying Models:—1st Prize, £4; 2nd Prize, £2.

7. Models embodying new design applicable to full-sized Machines:—One Prize, £3.

8. Ornithopter Models:—One Prize, £10.

Full particulars will appear in next week's issue under "Models."

WORLD'S RECORDS TO SEPTEMBER 30th, 1913.

BALLOONS.

DISTANCE.

Holder of Record.	Voyage Effected.	Country Holding Record.	Date of Record.	Distance Accomplished.
R. Rumpelmayer	Lamotte—Breuil to Voltsthyjar (Russia)	France	1913. March 19-20-21	kiloms. 2420·653

DURATION.

Holder of Record.	Voyage Effected.	Country Holding Record.	Date of Record.	Time.
Col. Schaeck	Berlin (Germany) to Borgset (Norway)	Germany	1908	73 hours

ALTITUDE.

Holder of Record.	Voyage.	Country Holding Record.	Date of Record.	Altitude.
Suring and Berson	From Berlin	Germany	July 30th, 1901	10,800 m.

WORLD'S RECORDS TO SEPTEMBER 30th, 1913.

DIRIGIBLES.

DISTANCE.

Name of Dirigible	Voyage Effected.	Country Holding Record.	Date of Record.	Distance.
P. 5	Verona—Sanguinetto—Modena—Casena—Ancona—Venice—Monte Belluna—Verona	Italy	1913. July 30th	kiloms. 810

DURATION.

Name of Dirigible	Voyage Effected.	Country Holding Record.	Date of Record.	Time.
P. 5	Verona—Cremona—Pavia—Turin—Chivasso—Mortara—Milan—Brescia—Verona	Italy	1913. June 25th	15 hours.

ALTITUDE.

Name of Dirigible	Voyage Effected.	Country Holding Record.	Date of Record.	Altitude.
Conté	Issy-les-Moulineaux	France	1912. June 18th	metres. 3,080

SPEED.

Name of Dirigible	Voyage Effected.	Country Holding Record.	Date of Record.	Speed per hour.
P. 5	Verona—Sanguinetto—Modena—Casena—Ancona—Venice—Monte Belluna—Vicenza—Verona	Italy	1913. July 30th	kiloms. 64·800

166, Piccadilly, W.

HAROLD E. PERRIN, Secretary.

FROM THE BRITISH FLYING GROUNDS.

Royal Aero Club Eastchurch Flying Grounds.

The chief item of interest at the aerodrome during the past week was the advent of the new Dunne biplane. It came out for the first time on Wednesday, when Commander Felix executed two nice flights. Weather conditions were against flying Thursday and Friday, but on Saturday afternoon Commander Felix made several flights, both solo and with passengers, including Mr. G. L. Pitt and Mr. A. Ogilvie, the machine being under perfect control. One of these flights was terminated with a beautiful glide, the engine being completely stopped. Mr. N. S. Percival also made a flight, circling the aerodrome several times, and banking well on the turns.

The finest flight was put up in the gathering darkness, and it was certainly a pretty sight to see the machine, banking over almost to the vertical, and steering in small circles.

Another machine to make an appearance was the rebuilt 100 h.p. Gnome-engined Short tractor biplane with monoplane fuselage. This is the machine that Commander Samson used to fly so well, both as a seaplane and a land machine. The chord seems to have been cut down, and the whole machine has been practically rebuilt. Engineer-Lieut. Briggs, R.N., flew the machine well, accompanied by a passenger.

Commander Samson was out trying the new 80 h.p. Gnome-Henry Farman, and also on Short No. 3. Sub-Lieut. Pierce has been flying well on Shorts during the week, making flights on every possible opportunity.

Hon. Maurice Egerton has returned to Eastchurch, and on his S 38 type Short made a straight, but the engine was pulling indifferently, so further flying was postponed. Prof. A. K. Huntington was also out for a short flight.

Lieut. Davis, accompanied by E. R. A. Hosken on Sopwith 104, met with a mishap between Canterbury and Faversham on Wednesday, smashing the landing chassis, &c., and the mechanic was slightly injured about the head, while the pilot escaped uninjured. On the same day a Sopwith biplane passed over the aerodrome at a great height, which subsequently proved to be Hawker making his attempt on the Michelin Trophy.

M. Verrier, on Tuesday, put a new 80 h.p. Gnome-engined Henry Farman biplane through the Admiralty tests in a stiff wind, in his usual brilliant style. He was accompanied during the test by Sub-Lieut. Young. The machine has since been given the official number of 31.

To summarise, the following pilots have been out: Commander Samson, Engineer-Lieut. Briggs, Lieut. Davis, Capt. Courtney, Sub-Lieuts. Marix, Rainey, Pierce and Young.

The machines in use include Shorts 65, 34, 3 and 2, Maurice



Lieut. William F. MacNeece (1st Battalion Queen's Own Regiment), who has secured his *brevet* at the Bristol School at Brooklands.

Farman 70. Henry Farman 31, 100 h.p. Avro 16, Bristol 24, and the rebuilt Short tractor.

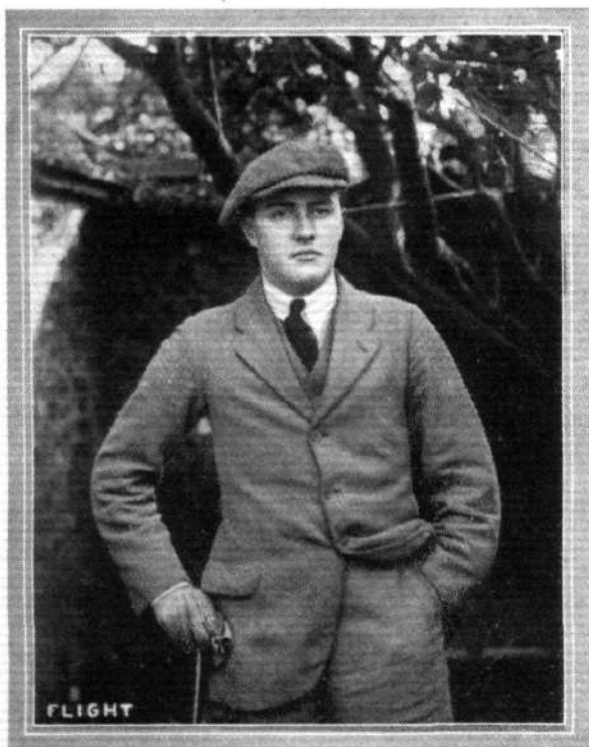
Brooklands Aerodrome.

On Tuesday last week Lieut. Cholmondeley arrived from Eastchurch on a Henry Farman biplane with a mechanic as passenger, and afterwards proceeded to Farnborough.

Mr. Hawker made a plucky and almost successful attempt on Wednesday on the Michelin cross-country competition to Eastchurch, Southampton, Salisbury and Hendon, where he reluctantly relinquished his attempt when a few miles more would have brought victory in sight.

On Saturday, Mr. Hawker flew to Farnborough on the new 80 h.p. Sopwith biplane, returning at dusk. Mr. Raynham, with Mr. Vincent Waterfall as a passenger, flew to Hendon, and on his return gave another fine exhibition of his machine's—80 h.p. Avro tractor biplane—wonderful capabilities, not the least interesting being when he made it climb with engine off—a feat which no other machine has yet accomplished. Its great range of speed is another great factor in its favour. Much activity was displayed at the Vickers and Bristol schools, the former having three machines out and the latter two. Earlier in the day the Grahame-White biplane passed over the aerodrome en route for Hendon.

There was again some excellent flying on Sunday. Mr. Raynham on his Avro biplane was first out, and took up several passengers, amongst whom was Mr. Hearst, who seemed delighted with his experience. During the afternoon, Mr. Raynham gave some fine exhibition flights, on one occasion racing side by side with Mr. Hawker on the Sopwith biplane. Mr. Merriam was next out, and, after making a fine spiral descent from a great height was busy with pupils on two Bristol biplanes. Mr. Barnwell was out on the Vickers 70 h.p. biplane, the machine proving extremely handy under control and developing quite a nice speed. Mr. Hawker was on the new 80 h.p. Sopwith biplane, and the Martinsyde monoplane on which the winner of the ballot for the free passenger flight (Mr. W. Bunce of School Hill, Ascot) had a trip was also flying well. Several new machines are expected out during the coming week. The Vickers 100 h.p. Gnome-engined biplane, with quick-firing gun has now arrived, and experiments of a most interesting character may be expected in the near future. The Sunbeam Co. expect to have ready a special 100 h.p. Sunbeam aero engine for testing in the Maurice Farman biplane by Mr. Jack Alcock. The Bristol tractor biplane is expected back, and should more than hold its own with other machines of a like type. Messrs. A. V. Roe and Co. have fixed up shed accommodation for their up-to-date machines.



Sub-Lieut. John D. Harvey, R.N., who took his ticket in excellent style at the Bristol School, Brooklands, recently.

The Blériot Co. have taken an important block of sheds, and will shortly commence the erection of their machines at Brooklands. Many other enquiries are being received for sheds, and altogether things may be said to be distinctly booming at Brooklands.

Bristol School.—Merriam up before pupils arrived on Monday last week, Mr. Macdonell afterwards making a fine solo, with neat landings. Merriam then up behind Lieut. Robertson on six straights and two circuits, afterwards behind Mr. Jacques on straights. Mr. Finny making fine figures of eight and landing.



2nd Lieut. R. W. G. Hinds (Royal Inniskilling Fusiliers), another pupil at the Bristol School, Brooklands, who has just obtained his Royal Aero Club brevet.

Merriam finished up by taking Lieut. Bridson for a high flight over Weybridge, and on returning the wind was so strong that they made little progress.

Blowing all day on Tuesday, flying impossible.

Merriam for test on Wednesday, then with Mr. Jacques (behind on straights). Messrs. Macdonell and Finny figures of eight, Lieut. Bridson circuits, Lieut. Robertson straights and circuits, McDonald straights and circuits, the latter two pupils doing their first circuits in fine style.

Merriam afterwards took Capt. Parker (new pupil) for his first trip up to over 2,000 ft., gliding down into aerodrome; pupil delighted with his flight.

In the afternoon Merriam testing, taking Mr. Arthur E. Stone as passenger.

Vickers School.—Monday, last week, Barnwell on biplane 21 with Messrs. Macdonell, Lee and Hinshelwood.

Barnwell on biplane 21 solo and with Messrs. Macdonell and Hinshelwood, Wednesday morning. Capt. Wood on biplane 21. Messrs. Howell and Hinshelwood solos on biplane 20. Messrs. Joubert de la Ferte and Webb solos on No. 5 mono. In afternoon, Barnwell on biplane 20 with Messrs. Dawson and Dowding (new pupils). Messrs. Paterson, Joubert de la Ferte and Wynne Roberts on No. 5 mono., the last-named being with instructor. Messrs. Hinshelwood and Macdonell solos on biplane 20. Paterson with Capt. Lee. Mr. Elsdon solo biplane 20.

Saturday, in morning, Messrs. Hinshelwood and Macdonell solos on biplane 20, Barnwell, Joubert de la Ferte, Newton-Clare, Elsdon, and Morgan solos on No. 5 monoplane. Elsdon with Capt. Lee on biplane 20. In afternoon Barnwell on biplane 26 with Messrs. Dawson and Dowding. Paterson and Messrs. Webb, Newton-Clare, Joubert de la Ferte, solos on No. 5 monoplane. Messrs. Elsdon, Macdonell, Barton and Pierson solos on biplane 20.

Barnwell on biplane 26 with passengers, Sunday.

Eastbourne Aerodrome.

WEDNESDAY of last week, in the afternoon, Fowler gave an exhibition on the E.A.C. biplane, after which school work commenced. Gassler was out with Mr. Dennis Gwynne, a pupil who has just joined the school. He was followed by Fowler, who had Mr. Hunt up in the pilot's seat. Work continued until dark. Nothing further could be done until Saturday when Gassler had the school bus out and went up with Mr. Thornely, who has passed his brevet tests, but is remaining on for further practice and to go for his superior. Gassler then took up Mrs. Salmon, a lady pupil who has recently joined, and afterwards he had Mr. Hunt up.

On Sunday morning Mr. Thornely made two flights on the Bristol of 25 mins. duration, flying all round the surrounding country at an altitude of about 800 ft. Mr. Hunt was out rolling on the 28 Blériot, during the morning and also the afternoon.

On Monday morning after Gassler had done the usual test stunt, he took up Mrs. Salmon and Mr. Gwynne in turns. Mr. Thornely was also out for another twenty-five minutes on the E.A.C. 'bus, doing banked turns in good style. Mr. Hunt was out doing short straights on the 28 h.p. Blériot. During the afternoon Gassler was busy again, and Mr. Gwynne was given quite a lot of instruction. Mr. Thornely was out again on the Bristol, and Mr. Hunt was doing quite well on the Blériot, making straight flights and landing very nicely. Fowler was out on the E.A.C. 'bus, and finished his flight with a very fine *vol plané* over the sheds.

Tuesday morning all was activity at quite an early hour, Gassler having the E.A.C. out shortly after daylight. Mrs. Salmon, and Messrs. Hunt and Gwynne each received two lessons, and Mr. Thornely had a 12 mins. cross-country flight. After breakfast, Mr. Hunt did a solo, landing well, and was followed by Gassler with Mr. Gwynne in the pilot seat, doing figures of eight. Mr. Hunt again had the 28 Blériot out, and after some good straights made a rather hard landing with somewhat disastrous effect to the machine. Mr. Thornely was out on the Bristol across country again.

Liverpool Aviation School, Waterloo.

On Saturday last Melly flew solo on his two-seater round Freshfield and back to Waterloo, a distance of about 20 miles, taking 26 mins. He attained a height of 1,600 ft., and finished up at the hangars with some figure 8's and an extended *vol plané*.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Wednesday, last week, Lord Edward Grosvenor rolling with Instructor Manton and then alone. Messrs. Francis, Webb, Kershaw, Lillywhite, Norris and Howarth straights with Instructor Birchenough in passenger seat. Mr. Cripps solo circuits.

Saturday, Messrs. Howarth, Norris, Webb, Francis straights with Instructor Birchenough in passenger seat. Messrs. Segebaden and Lillywhite solo straights. Lord Edward Grosvenor rolling with Instructor Manton on Blériot.

All other days in the week bad weather kept pupils in hangars.

W. H. Ewen School.—On Wednesday, last week, school was out at 7.30 a.m. Test flight by Mr. F. W. Goodden on 35 h.p. Caudron No. 2, after which Messrs. Murray and Johnson were doing straights and Mr. Wiggett rolling.

At 7 a.m. on Saturday M. Baumann was out on the 35 h.p. Caudron No. 1. After test flight, Mr. Johnson did straights on same machine. Mr. F. W. Goodden made a test flight on 35 h.p. Caudron No. 2. Messrs. Cooper and Wiggett were rolling, Messrs. Badgery, Johnson, Murray and McGregor doing straights. At 10 a.m. Mr. F. W. Goodden was again out instructing Mr. Cooper, who was rolling, and Mr. Murray who was doing straights.

Half School.—Wind ruled last week on Monday, Tuesday, Wednesday, Thursday, Friday and Saturday, and dense fog on Sunday. Saturday, Miss Sophie d'Elsa and W. C. Moriarty, of South Africa, joined school and had passenger flight together on the G.-W. char-a-bancs. Sunday, Dennis Ware made circuits notwithstanding the dense fog.

Salisbury Plain.

Bristol School.—No flying was possible on Monday or Tuesday, last week, owing to wind and rain.

Voigt made two trials on Wednesday, and then took for tuition Capt. Walcott twice, and Capt. Fell one trip. Jullerot also gave tuition to Capt. Walcott and Fell. Good solos were executed by Lieuts. Harrison and Marsh and Mr. Courtney. Rising wind prevented further tuition.

In the evening Jullerot a trial, and then a trip to a prospective pupil—Lieut. Gilligan. Voigt gave biplane tuition to Capt. Walcott and Air-Mechanic Locker, and Lieut. Marsh did a good solo. Darkness prevented further flying.

Royal Flying Corps (Netheravon).—No flying on Monday or Tuesday of last week, but on Tuesday Lieut. Cholmondeley with Mechanic Wilson to Redhill in 1 hr. 55 mins. and from Redhill to Brooklands in 1 hr., from Brooklands to Farnborough in 40 mins., the machine being left at the Royal Aircraft Factory for overhauling. On Wednesday Capt. Herbert on H. Farman for two flights, taking up Mechanic McQueen. Lieut. Shekleton also went up twice on same machine. Capt. Picton-Warlow out on Avro, relieved later by Sergt. McCudden for a good flight, putting in a splendid show of flying.

Lieut. Stopford, with Mechanic Littlejohn as passenger, from Shorncliffe to Brighton, in 2 hrs. 20 mins., at 4,500 ft., a distance of 74 miles. Then afterwards went on to Netheravon, the flying time for the day being 4 hrs. 40 mins.

Lieut. Conran on Blériot, with Mechanic McCrostie as passenger, from Eastchurch to Brighton in 2 hrs. 5 mins., and from Brighton to Netheravon in 2 hrs. 10 mins., passing over Petersfield, Okeley and Andover. All head winds.

Shoreham Aerodrome.

Shoreham Flying School.—Weather has been too bad to do much school work. Elliott completed the second half of his *brevet* tests in good style at an altitude of about 500 ft., on Saturday, and Cannon was out on one of the school 'buses. Elliott shows himself to be a very steady flyer and is still continuing at the school. On Sunday he was out as also was Cannon—a pupil of promise. Monday and Tuesday also saw good work, the weather being ideal.

Upavon.

Central Flying School.—Very little flying on Monday week. Very strong south-west wind blowing all day. Lieut. Shepherd, with Lieut. Mapplebeck as passenger, flew one circuit on M. Farman 451. Lieut. Waldron two circuits on a BE.

Tuesday, the wind still very strong and squally. Lieut. Waldron on BE 454 went to Lark Hill and back in 30 mins.

On Wednesday there was a slight south-east wind, changing later to south-west. All machines were out. On Avro 448, Lieut. Bone 40 mins., Lieut. Penn-Gaskell three 10-min. trips, and Sergts. Jarvis and Wright one circuit each, Lieut. Bewes for quarter-hour on same machine. On Avro 432 Lieut. Hoskin went to Winchester and back, taking 75 mins. for the double journey. Lieut. Collett, two trips of 35 and 25 mins. each. On Avro 406, Sergts. Jarvis and Wright for half-hour each; later, Sergt. Wright for 15 mins. Lieut. Bone for four flights totalling an hour, and Lieuts. Bewes and Baird for 20 mins. each on same machine. Major Fulton was testing Avro 433, after which Lieut. Collett cross country to Salisbury and Andover, taking an hour on the triangular course. Lieut. Hosking circuits of aerodrome for 50 mins. on same machine. Capt. Webb-Bowen with Sergt. Aspinall under instruction for 20 mins. Sergt. Aspinall 5 mins. doing straights, but turned machine on its back. Lieuts. Baird and Gaskell for half an hour each on Avro 430. Lieuts. Bone and Bewes two trips each on same machine. On Maurice Farman 450, Lieut. Wanklyn for half an hour and A. M. Collis for 12 mins. Capt. Salmond went cross country to Warminster, Booter and Salisbury, taking 2 hrs. 40 mins. for the trip. Master-Mech. O'Connor, 20 mins. circuits on Maurice Farman 427. Chief Mechs. Pack and Case for 25 mins., and Sergts. Porter and Robins for 20 and 25 mins. each on same machine. Air-Mech. Gallie for 18 mins., and A.-M. Collis for 45 mins. On BE 441 Capt. Salmond two trips of quarter of an hour, and Lieut. Waldron one trip of 11 mins. Capt. Ellington one flight 14 mins., and Lieut. Stodart 46 on same machine. Lieuts. Chambers and Nansen for 55 mins. three flights, and 47 mins. two flights respectively. Lieut. Waldron for one circuit, and then with Lieut. Chambers as passenger for 20 mins., Lieut. Breese cross country for an hour, all on BE 453. On Maurice Farman 428 Lieut.-Col. Cameron two flights of 35 and 15 mins. each, Lieut. Waldron with A.-M.'s Power and Joel for 15 mins., Capt. Griffith one flight of 55 mins., Sergt. Mitchell 20 mins. and Chief Mech. Grady 5 mins. on same machine. On BE 454 Capt. Ellington 45 mins. for two flights, Lieut. Waldron 21 mins. (two flights), Lieut. Nanson 42 mins. (two flights) and Lieut. Chambers 16 mins. Capt. Salmond for half an hour. Lieut. Stodart doing circuits for 38 mins., Lieut. Chambers 20 mins., Lieut. Breese 40 mins. (two flights), and Capt. Ellington 40 mins. on BE 457. Lieut. Waldron with A.-M. Baker one flight of 40 mins. On Maurice Farman 403 Lieut. Shepherd with Lieut. Hepper under instruction for 27 mins., and Master-Mechanic Scott for half an hour. M. M. Scott then doing five straights alone. On M. Farman 415, Lieut. Lewis to Farnborough and back, taking 40 mins. for the outward journey and an hour and a half to return. Lieut. Humphreys cross country to Pewsey, Marlboro and Burbage, taking 65 mins. for the trip, on M. Farman 425. Lieut. Mapplebeck, 47 mins., 3 flights, and Sergts. Stafford and McNamara 20 mins. each on same machine. On M. Farman 451 Lieuts. Williamson and Brock for 42 mins. each. Lieut. Shepherd with Lieut. Humphreys for 5 mins., and Air-Mechanic Darke 14 mins. Lieut. Robin Grey to Farnborough and back on M. Farman 458. On Short biplane 401 Lieut. Carmichael with Sergt. Gardiner under instruction for 35 mins. On Short biplane 402, Sergts. McCrae and Patterson a quarter of an hour each. Lieut. Kilner for an hour and half, three flights, and Lieut. Mitchell 75 mins., three flights, on BE 417. On BE 438 Major Gerrard with Lieut. Lewis for a quarter of an hour. On H. Farman 440 Major Gerrard with Lieuts. Empson and Lewis and Air-Mechanic Sharpe for 25 mins. each. Lieut. Cogan one trip of 25 mins. on same machine. Lieut. Dalrymple-Clark three flights of 40 mins., one hour, and hour and half each on H. Farman 456. Major Gerrard with Capt. Etherington 20 mins. on same machine.

On Thursday a strong south-west wind was blowing, only a few machines being out. On BE 453 Lieut. Waldron with Lieut. Holt one circuit of 10 mins. On BE 454 Capt. Salmond 15 mins., Lieut. Breese 15 mins., and Lieut. Waldron, with A.-M. Copper, for half an hour. Lieut. Stodart for 15 mins. on BE 457.

On Friday a strong south-west wind was blowing. It was also very dull and wet. No flying took place at all.

Saturday was fine and clear with a slight west wind blowing. Capt. Webb-Bowen with A.-M. Clarke for 5 mins. on Avro 430. Major Trenchard, on Maurice Farman 450 for 23 mins. Master-Mech. O'Connor for 20 mins., and Air-Mechanics Gallie and Collis for 15 mins. each. Sergt.-Major Levick one circuit on M. Farman 427. On BE 453 Capt. Salmond with Lieut. Waldron for 12 mins. Capt. Salmond for 8 mins., M.-M. O'Connor 5 mins., and A.-M. Butt 4 mins., on M. Farman 428, Lieut. Waldron 25 mins. and Major Trenchard 15 mins. on BE's 454 and 457.

On Monday, a moderate west wind was blowing. All machines were out. Lieuts. Baird, Collett, and Bone were doing practice flights of half an hour on Avro 448, Sergt. Jarvis made one flight of 25 mins. on same machine. On Avro 433 Lieut. Collett went cross-country to Warminster, taking 55 mins. for the journey. Lieut. Bone made two flights and Lieut. Bewes three flights on Avro 430. Capt. Webb-Bowen was giving Air-Mechanic Clarke instruction for 70 mins. on Avro 406. Lieut. Penn-Gaskell two

flights of 20 mins. each on same machine. On Avro 432 Lieut. Collett one flight of 40 mins. Lieut. Baird three flights of 15 mins. and Sergt. Wright two flights of 20 mins. On M. Farman 427 Sergt.-Major Levick two flights of 8 mins. each, Sergt. Robbins one flight of 37 mins., and Air-Mechanics Smith and Collis one flight each of 10 mins. Assistant-Paymaster Lidderdale, R.N., made one flight of 25 mins. Chief-Mechanic Case and Air-Mechanic Collis one flight each on M. Farman 450. On BE 453 Lieut. Chambers went to Salisbury and back. Lieuts. Waldron and Brock one flight each of 10 mins. On M. Farman 428 Lieut. Waldron one flight of 5 mins. Lieuts. Manson, Brock and Dalrymple-Clark two half hour flights. Capt. Ellington two flights of 23 mins. on BE 441. On BE 457, Capt. Salmond with Lieut. Dalrymple-Clark 28 mins., and Lieut. Mapplebeck 20 mins. Lieut. Waldron with Lieut. Brock for half an hour, and then Lieut. Brock 5 mins. alone on same machine. Lieuts. Waldron and Dalrymple-Clark one flight each of 10 mins.

B. C. HUCKS LOOPS THE LOOP AT HENDON.

ON Thursday afternoon B. C. Hucks, the first British pilot to carry out the manoeuvre in England, gave a "private view" demonstration of looping the loop, and those who witnessed the performance could not have been otherwise than impressed by the magnificent display of airmanship. In the first place, the loops were perfectly formed loops, and secondly they were done comparatively low down—between 1,500 and 2,000 ft.—a procedure a little unexpected to those of us who saw Pegoud, at Brooklands, perform similar feats at a height of 3,000-4,000 ft., whilst a finishing touch of eeriness was given to the whole display by these feats being executed for the most part in the clouds. Shortly after noon Hucks brought out his 50-h.p. Gnome-Blériot—a magnificent machine possessing M. Blériot's latest and, perhaps, best workmanship—and went up for a trial flight, which, to the alarm of all present, terminated in a forced landing in a field just on the other side of the railway embankment. Fortunately the only damage done was a small hole torn in the bottom of the tail-plane by a hedge, and a safe return to the aerodrome was made shortly after. The tail having been repaired, Hucks again took his seat, and having been safely "tucked in" by his energetic manager, J. C. Savage, and his mechanic, he started off to show us how an Englishman can perform those feats originated by Pegoud. There was not very much wind—15-20 m.p.h.—but the sky was obscured

by low-lying clouds. After making about three circuits of the aerodrome, climbing rapidly to a height of 2,000 ft., and disappearing from time to time in the clouds, we saw him dive suddenly, and then describe a complete loop, the wheels remaining *outside* the circle. The loop was in the form of a perfect circle, and there was but a momentary pause when the machine was on its back, and when the normal position was regained, one could not notice any appreciable decrease in height. After flying level for a short distance he repeated this manoeuvre behind a thin film of cloud. Another short flight and he disappeared through a cloud, to reappear shortly after *upside down*, i.e., halfway through the loop. During this time he had dropped only a very short distance, and was just above the paddock and No. 2 pylon. He then proceeded to fly towards the centre of the aerodrome, where he looped the loop three times in quick succession. The first two appeared to be made in the same spot, although, of course, he must have dropped and drifted somewhat, and during the third loop he received a severe bump—due, he told us afterwards, to the backwash from the previous loop!—which caused the last loop to be made somewhat lower, and at a different angle to the other two. After this last loop he made a very steeply banked spiral, and finally landed by way of a spiral *vol plané*. He received an enthusiastic reception, for it was one of the most skilful and neatest, not to say beautiful, aeroplane displays ever given in this country.

AN AUTOMATIC AEROPLANE FROM AUSTRALIA.

FROM the High Commissioner of Australia we have received the following communication respecting the invention of a very promising automatically stable aeroplane by an Australian engineer. We shall await further details of the trials of the model and the full-sized machine with interest:—

"Australia has produced several first-class 'flying' men, and it looks as if the inventors in the Commonwealth are on the right road for the construction of a novel machine in the form of an automatic balancing aeroplane. An engineer in the Victorian Government service (Mr. G. B. H. Austin) has been experimenting for some time, and now claims to have come within measurable distance of success. The latest trial was made one evening in unfavourable weather. The machine was then sent up without a pilot. On making her run off she struck a boulder, which diverted her course from west to south, thereby taking the breeze on her side, instead of in the face. In spite of this, however, the machine steered a dead straight course, and balanced as if under skilled direction. The diversion caused her to face a belt of trees, and as her elevation was not sufficient to avoid them, she crashed into the branches, which smashed the front set of planes, necessitating repairs. The engines, however, were not injured.

"It is claimed that the trial gave convincing proof of the automatic stability of the machine. The propellers, of which there

is one at each end, are constructed on a formula evolved after careful study of the dimensions of Blériot and other standard propellers, that gives greater pulling power than other models. One plane is behind the other.

"The engine, instead of being in the fore part of the machine, as is usual, proving disastrous in the event of accident, is placed in a central position, where it gets most even support in descending. Mr. Austin claims that his aeroplane may go out in all weathers, and will not capsize, mainly on account of the pendulum balance attachment, which, he says, will always remain at right-angles with the earth, no matter at what angle the planes may be blown, while the attachments to the pendulum will automatically bring the planes back into a horizontal position. In other machines, this has to be done by the aviator, and is a matter of frequent embarrassment to him.

One thing the machine cannot do. It cannot loop the loop, because its balance is always automatically preserved. Passengers will be carried on a swinging suspended car, which provides the means whereby automatic control of the wings takes place. As the car is always steady, it ensures accurate aiming for the machine guns that may be carried on this platform. Another advantage supplied in this machine is that duplicate parts may be carried.

"The success of these tests will enable financial support to be obtained for the construction of a full-size machine, which will be tried on a flight between Melbourne and Sydney. It is anticipated that the distance between the capitals will be covered in a few hours. The patent has been protected all over the world."

ROYAL FLYING CORPS (MILITARY WING).

WAR OFFICE summary of work for week ending November 22nd:—

No. 1 Airship Squadron. Farnborough.—The airships were out several days during the week.

No. 2 Squadron. Montrose.—A, B, and C "Flights" were at work throughout the week, carrying out reconnaissance flights over the country round Montrose.

No. 3 Squadron. Netheravon.—Several long cross-country flights were made by pilots of this squadron. 1,232 miles in all

were covered (including a flight by 3 machines from Eastchurch to Netheravon).

No. 4 Squadron. Netheravon.—BE. and M. Farman machines were out daily. Several new BE's will be ready for issue to No. 4 Squadron next week.

No. 5 Squadron. Farnborough.—The Officer pilots were flying Avros and M. Farman's most days during the week. The detachment at Dover obtained considerable practice.

Flying Depot Squadron. Farnborough.—Experimental work on various lines was continued.

ARMCHAIR REFLECTIONS.

By THE DREAMER.

Air Serpent Discovered.

I SHOULD like you to clearly understand, right from the start, that this is not my story, I gleaned it from *Everybody's Paper*, who in turn admit that they got it from the *New York American*, who no doubt got it from somebody who had a friend who knew a man that heard about it. There used to be a line in a certain song that said "When things are far fetched, they get a bit stretched," which coupled with the fact that the country of origin of this serpent incident is America, may account for its picturesque details to some extent.

"Frank Goodale, who flies his own airship nightly over Palisades Park, opposite 125th Street, N.Y. City, may go down into history as the discoverer of the air serpent. He came down recently with his hair on end and scared speechless.

"When he recovered he said that at a height of 2,000 ft. he was attacked by a long green thing that had two great wings and seemed to come out of a cloud. He was saved by the search light that was trained on him, for the creature seemed to fear the light and retreated at once to his lair wherever that was.—*N.Y. American.*"

I do not take *Everybody's Paper* myself, and so did not see this till it was sent along to me by a doubtful friend. I wish at once to emphatically state that I am no judge of green serpents in any shape or form, real or imaginary! Whether it is a question of position or condition, the want of the one or the lack of the other, the fact remains that I have never seen one; but if Mr. Frank Goodale should tell me that what has been said is true, I am quite ready to believe him, and can see in it a new and undreamed of danger to aviators. I have not heard of the Great Sea Serpent for some time now, and it may be that that gentleman (if I may use the expression) resents the oblivion to which he has been consigned, and has made up his mind to obtain, or rather to continue his publicity, by seeking another element for the scene of his operations. In any case, it must be distinctly unnerving to have a monstrous serpent fly at one from out the clouds, no matter what his colour may be, and Mr. Goodale must have been very pleased when he, the serpent, "retreated at once to his lair." I rather like the description that it was a "long green thing, with two great wings," because it at once does away with any idea that it might have been a brother aviator flying one of those new and mysterious machines so prevalent on "the other side."

It is a long time since I read "Stories from the Greek Mythology," but I remember the story of Venus, the Goddess of Beauty, who sent Cupid, her son, to spirit away Psyche, and deliver her to a monster, and it turned out after that the monster was none other than Cupid himself, and they were happy ever after, or something of that kind; so no doubt it will all come right in the end, which I sincerely hope, for the sake of all concerned.

Upsidedownitis.

I hardly like to admit it, but I am old enough to remember influenza becoming fashionable and ousting the old-fashioned cold; I thought it would be rather nice to be fashionable, and have it. After I had had it a few times I got tired, but the influenza didn't, and still plays the game as sprightly as ever when in the mood. When appendicitis became the fashion I found out the cause of it, and have striven—with success up to now—to stave it off. Upsidedownitis came over with Pegoud, which is rather novel, because I have always understood

that most of the "itis" things came over in orange boxes, or in timber, or in jute, or in something else—at any rate, they always "come over," and are not, according to official reports, born here. This one came over with Pegoud, and is spreading with the rapidity of bad news, and I am afraid of my life that I shall catch it in some some form or other. I have always been great at catching things, ever since I put up my one and only record, by catching the measles three times, when once is the proper dose, and twice something to be proud of. For myself, I believe this upside-down business is only an old complaint masquerading under an assumed name, and is not new at all; something like influenza. I have read of men who have told judges time and again that they could do it on their head, so in all probability it is only a question of practice, though I believe there is such a thing as practising till one is over-trained, and that then the results are not good, which goes to show that sometimes a little is a "plentiful sufficiency." Just at the moment we have a plentiful sufficiency of upside-down flyers, and it is not at all necessary that all should go in for this most entertaining form of contemplative suicide. I believe the time has come when a line will have to be drawn between circus flying and instructive and progressive flying. I quite agree with most, that the flying of Pegoud was of real service to the scientific side of aviation, and that he has taught much that will be of inestimable value to all concerned; but if this mania, that no pilot who cannot fly upside-down will be of any use, continues, aviation will be taking a turn that, in my humble opinion, will not be altogether to its benefit.

Apropos of upsidedownitis, Maggie Watson, who is the nine-year-old daughter of a ploughman near Dumfries, should have the germs in her of a fine exponent of this new mania. She is puzzling everybody by the fact that she can only write upside-down. I do not mean by this that she has to stand on her head, but that she writes the reverse way to most of us, though when reading she holds the book in the ordinary way. This cannot be from any defect in her vision, or she would have to hold the book upside-down also, and the doctors cannot find anything wrong with her eyes. It is just some peculiar derangement of the nerves, in all probability, and I do not see that it would be beneficial to others to try and do the same, even if they are aviators.

By way of a variation on the upside-down performances, Mr. Beachey, the American aviator, I see, has added the letter Z to his repertoire of fancy flying, having, I suppose, got a bit tired of S dives and loop-loopings, so I suppose it will not be very long now before some of our most skilled pilots will sail on high and go through the whole alphabet, forwards and backwards. I will even go so far as to imagine the time as not far off, when, on seeing an airman climb skywards, we shall watch to see whether he is going to tell us in aerial evolutions to "Give him Bovril" or that "Beecham's pills are worth more than their face value."

"Good-night" cut out of chunks of air might also be nice to finish a flying entertainment with, but if this sort of thing is to continue some of the entertainments will, I am sure, finish in a way we have no desire to see. If any of our pilots should value the opinion of the unknown, "The Dreamer" will think just as well of them right-way-up as any other way.

BRITISH NOTES OF THE WEEK.

Capt. Longcroft's Long Flight.

PROBABLY the finest flight with passenger yet made in the world was that of Capt. Longcroft on Saturday, when, accompanied by Lieut.-Col. Sykes, he flew on biplane BE 218 from Montrose to Portsmouth, and then to Farnborough, the distance of 630 miles taking 7½ hrs. The machine, which was fitted with a special petrol tank of 54 gallons capacity, left Montrose at 8.55 a.m., and landed at Farnborough at 4.10 p.m. It will be remembered that Capt. Longcroft previously held the world's record for a flight in a straight line with a passenger with 288.6 miles.

Mr. McClean's New Hydro-Aeroplane.

A NEW four-seater waterplane has just been built by Messrs. Short Bros. for Mr. F. K. McClean, who intends to take the machine to Egypt, and in company with Mr. Alec Ogilvie and a mechanic make an expedition along the Nile. On the 19th inst. Mr. McClean made a test flight along the Kent coast, taking up four passengers. Commander Samson, Lieut. Courtney, Mr. Ogilvie and Mr. Short. The machine has a speed of about 72 m.p.h.

A New Bristol Waterplane.

SOME tests were made at the end of last week at Pembroke Dock with a new machine which has been built by the Bristol Co., and which is specially intended for ocean work. The machine has a deep keel and there are also two propellers, one being for the purpose of driving the machine along the surface of the sea.

Changes in the Aerial League.

WE are informed that Mr. Stephen A. Marples has resigned his position as organising secretary and consulting engineer to the Aerial League of the British Empire, as also the secretaryship of the Organisation Committee.

A new Organisation Committee has been formed, consisting of Gen. Arbuthnot, Chairman, and Col. H. S. Massy, Vice-chairman, respectively, of the League, Mr. A. O. Warren and Messrs. Harold E. F. Norris and Alfred Wolfe the newly appointed organisers. Mr. Harold E. F. Norris has also recently been appointed as Secretary for the London district.

Shoreham to Lewes.

MR. CECIL PASHLEY, accompanied by Mr. Busteed, of the Shoreham Flying School, flew his H. Farman to Lewes on Wednesday of last week in a wind of 35 m.p.h.—an excellent performance for a biplane, considering the uneven country near the county town. Starting from Shoreham about 2.30, he arrived at his destination at 2.45, but the return journey occupied nearly 45 mins., so strong was the wind.

Eric Pashley out Again.

ON Saturday last Mr. Eric Pashley made his first flight after his operation and it was evident that he was well pleased. Still being on crutches, he was lifted into the machine, but found it rather hard work using the rudder-bar with his injured leg. However, he accomplished some fine banks and all credit is due to him for his excellent exhibition. Since then both the Pashley brothers have been out a great deal. They are constructing another Farman 'bus, this time of the modern type without front elevator. The machine should be out in a few weeks.

Gordon England's Accident.

A SECRET trial was made at Shoreham with the new machine designed by Mr. Cedric Lee, on Sunday morning last, but unfortunately the incident was marred by a smash, the pilot, Mr. Gordon England, being slightly injured. It is rather difficult to describe the machine, but it might be said to resemble a heart in shape flying head first. The results, however, were surprising, the speed might be anything from 80 to 90 m.p.h. Getting off well, the pilot manoeuvred to the left and went outside the aerodrome



AERONAUTICAL SOCIETY OF GREAT BRITAIN.

Official Notices.

1. Elections.—Member, A. Graham Clark; Associate Member, W. Lockwood Marsh; Student, Arthur Ashton.
2. Council.—Dr. R. Mullineux Walmsley has been co-opted under Rule 14 to fill the vacancy on the Council caused by the retirement of Mr. T. W. K. Clarke.
3. Meetings.—The second meeting of the forty-ninth session will be held on Wednesday, December 3rd, at 8.30 p.m., when Maj.-Gen. R. M. Ruck, C.B., R.E. (ret.) will preside. Capt. C. M. Waterlow, R.E., will read a paper, followed by a discussion, on "The Coming Airship."

BERTRAM G. COOPER, Secretary.

banking but very little. When over the railway he switched off, apparently intending to *vol plané* into the aerodrome, but the tail of the 'bus fell and the machine swung round, slide-slipped, and then completely capsized, falling about 150 ft. on to the telegraph wires, which fortunately broke the fall a great deal. The pilot was severely shaken and it was a miracle his injuries were not more severe. Mr. England afterwards stated that the machine was tail heavy, which was evident from the way she was flying.

A Mishap to M. Salmet.

AS he was concluding a flight with a passenger on his Blériot monoplane at Bournemouth on Saturday, M. Salmet made a slight miscalculation and the machine could not be stopped before it had run into a tree. The monoplane was slightly damaged, and M. Salmet sustained a cut on the cheek, but his passenger, M. Hutton Turnor, who is 73 years of age, escaped unhurt. This is practically about the only mishap Salmet has had during the whole of his splendid series of flights.

A British Blériot Factory.

MR. NORBERT CHEREAU, general manager in England for the Blériot aeroplanes, informs us that his firm have decided to open works in this country to build the latest types of machines exactly on the same lines that they are now made in France, and under the direct supervision of M. Louis Blériot, who intends to spend a considerable amount of his time in this country.

Arrangements have been made with the proprietors of the Brooklands Flying Ground, and it is hoped that within three or four weeks a temporary factory, large enough to build two or three machines a week if necessary, will be ready to make a start.

The orders placed during the last few months by the War Office, and also private customers, for Blériot monoplanes, and the large number of private enquiries from England and the Colonies, decided M. Blériot to take this step, which we know had been advocated for some time by Mr. Chereau, and we have little doubt that the success which is bound to follow the latest Blériot aeroplanes and seaplanes will soon bring about the more ambitious programme of the gentlemen interested in this concern.

A New Anzani Engine.

WE have received a few particulars of an entirely new 10-cylinder motor, which is being introduced by the British Anzani Engine Co., Ltd., of 30, Regent Street, London, S.W. This new model is of 65 h.p., the bore being 90 mm. and the stroke 120 mm. The weight is 242 lbs. It runs at 1,250 r.p.m., and the petrol consumption is 5 gallons per hour, while the oil consumption is 1½ gallons per hour.

The crankcase is of special design, being in one piece, and accessible by means of a cover fitted to the front, this arrangement enabling the exterior diameter to be reduced, and allowing of a more compact construction of the engine. In its general arrangement the new engine is similar to the other 10-cylinder types of Anzani engines having the double-star formation, two-throw crankshaft, and identical type cylinders, valves, connecting rods, piston, timing gear, &c. We understand that delivery of this model can be given in 6 to 8 days from receipt of order.

A Win for Emaillite.

THE Grahame-White biplane upon which Mr. Reginald Carr won the British Michelin Cup No. 1, was doped throughout with British Emaillite.

Russian Government Adopts "Integrals."

FROM the Integral Propeller Co., Ltd., of 307, Euston Road, N.W., we learn that the Russian Government has ordered one thousand Integral propellers for early delivery, from the St. Petersburg works of M. Chauvière. The Russian Government has also issued an order that no other propeller, except the Integral, is to be used in any of the Government departments, including the Navy.



The New Zeppelin on Trial.

THE latest Zeppelin dirigible, "Z22," left Friedrichshafen at 8 a.m. on Saturday with a military commission on board, and arrived at Gotha at 1.15 p.m. The vessel will be put through her official trials at Gotha.

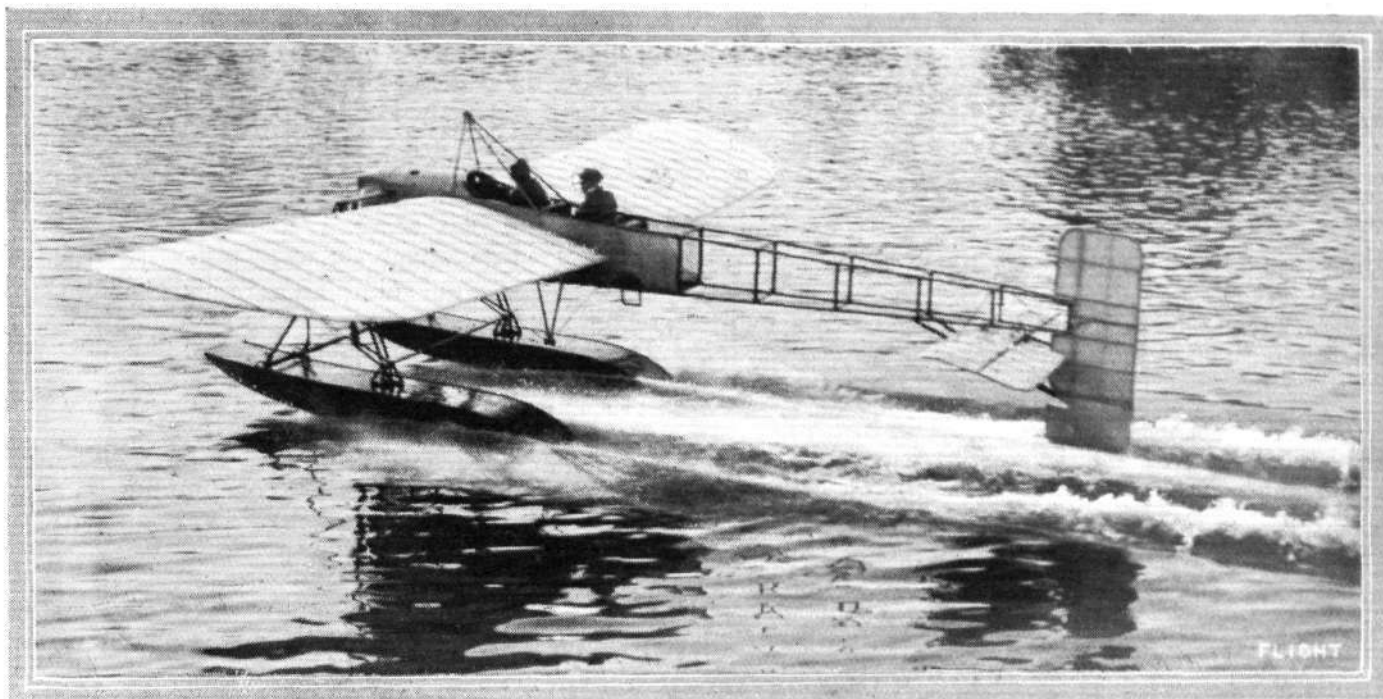
Flying at the Panama Exhibition.

ARRANGEMENTS have been concluded by the authorities of the Panama Exhibition, with a number of well-known aviators to make flights every Sunday afternoon from the Exposition grounds, which are on the shore of the Bay of San Francisco. It is proposed to hold a series of events, including a 25-mile race, bomb-dropping contests, a relay race in which six machines will fly, and an aerial carnival in which all of the flying boats and hydro-aeroplanes will participate.

THE NEW BLÉRIOT HYDRO-AEROPLANE.

ONCE more the Seine at Billancourt has been the scene of experiments with hydro-aeroplanes by M. L. Blériot; it will be recalled that as far back as in 1906 M. Blériot

type. One of our photographs shows the chassis, which consists of the usual Blériot chassis with the addition of a few extra tubular struts which support the front

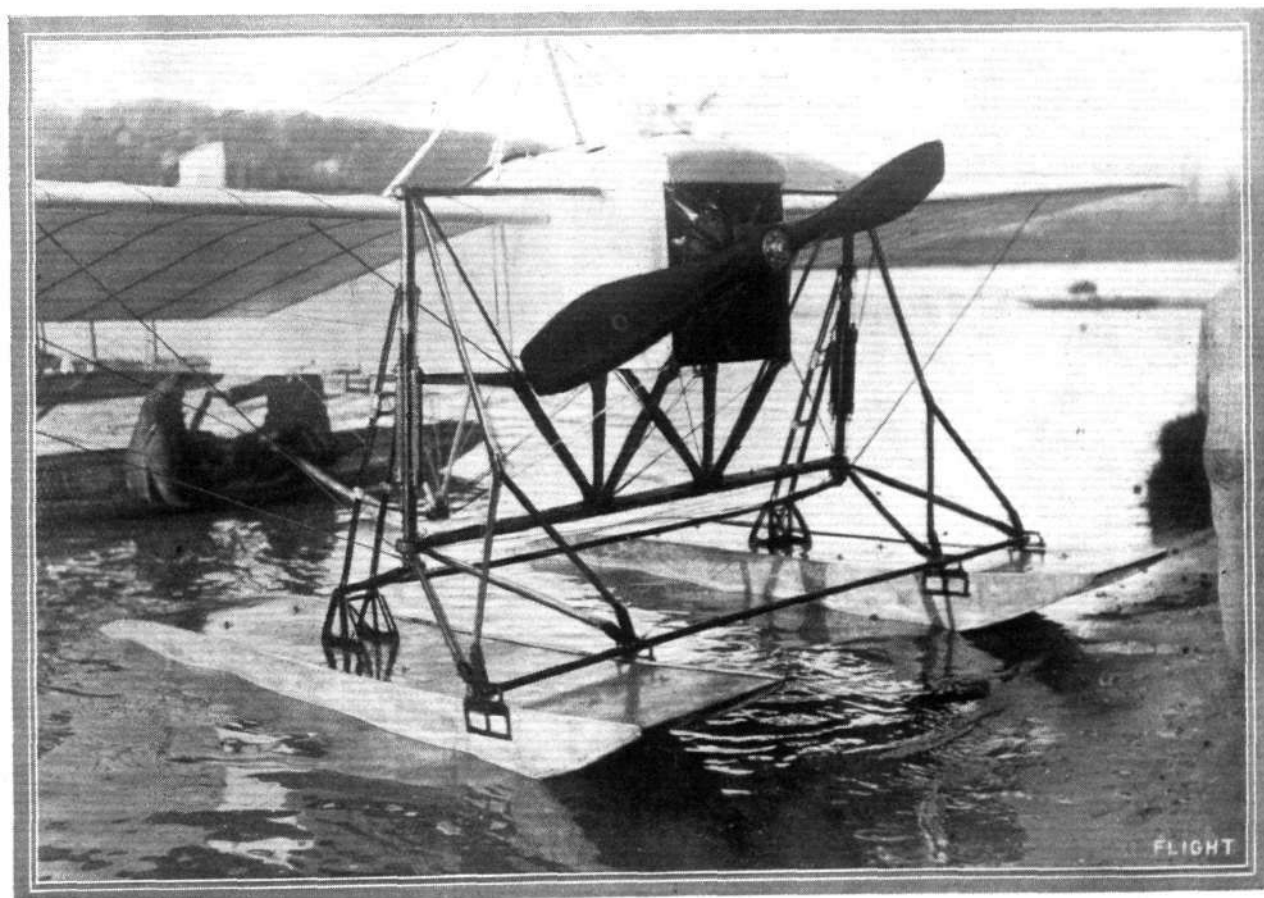


The new 80 h.p. Rhone-Blériot seaplane showing its paces on the water.

experimented in the same neighbourhood with a biplane having elliptical main planes.

The new hydro-aeroplane is of the tandem two-seater

portion of the Tellier floats with which this machine is equipped. These floats are sprung in a similar way to the wheels of the land machine, being pivoted around



A front view of the floats and chassis, &c., on the new Rhone-engined Blériot seaplane.

the transverse tube which connects the front chassis struts and being sprung at the rear by means of the usual shock absorbers. This arrangement has, of course, the advantage of lessening the shock of alighting very considerably, and has in the preliminary tests proved very successful. The machine can be converted into a land machine by substituting wheels for the floats, an operation which, we understand, can be carried out in less than an hour.

The tail is supported on the water by means of a

float which forms an extension of the rudder and by means of which the machine can be steered on the water.

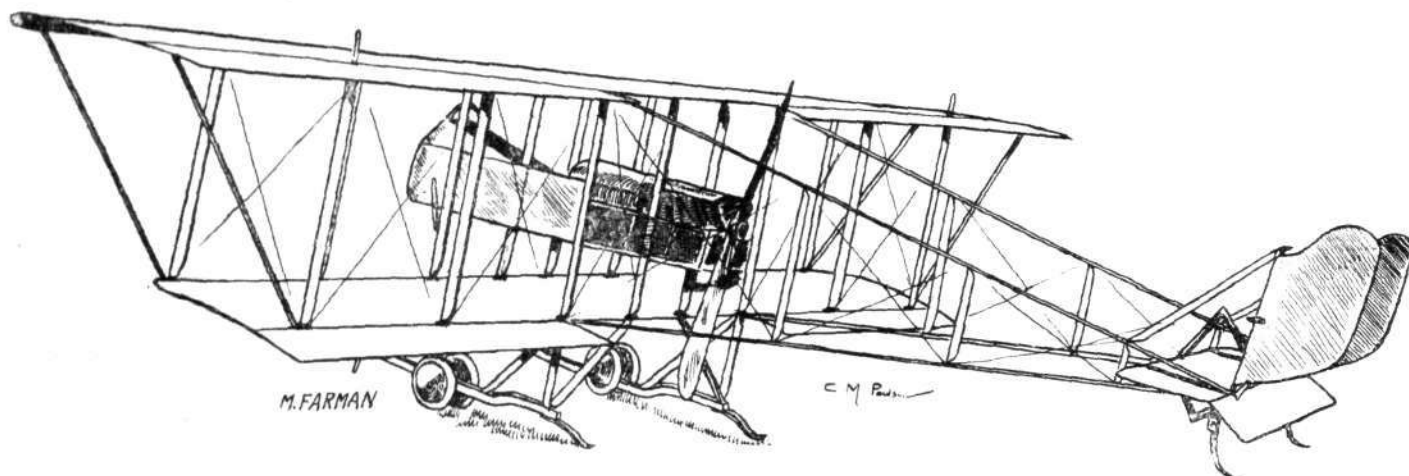
At the trials an 80 h.p. Le Rhone engine was fitted, and, in the hands of the late M. Perreyon, the machine rose in less than a hundred yards, and flew at a speed of about 100 kilometres an hour. The span of the machine is 11 metres, and she weighs, empty, about 700 lbs. With pilot and passenger and 4 hours' fuel on board, the weight is about 1,400 lbs.

A NEW MAURICE FARMAN BIPLANE.

SINCE Maurice Farman first brought out his now famous biplane very few alterations have been made until quite recently. Some time ago it will be remembered we published illustrations of a new M. Farman biplane, which was then flying at Hendon, and which had no front elevator. In other respects, however, this machine was

are placed wholly on top of the tail plane. Two swivelling skids protect the tail planes against contact with the ground.

The nacelle has been raised considerably, so that the centre of thrust is now approximately half way between the upper and lower main planes. The skids



similar to the standard type. Now a new machine has made its appearance in France; in this not only is there no front elevator, but several new features have been introduced. It will be noticed from our sketch that the tail outrigger is of an altogether different form to that of the standard M. Farman type. The tail plane of this machine is of the monoplane type, and the two rudders

have been shortened, but still carry at their rear extremities the steel springs which act as very effective brakes when the machine is landing. The two pairs of wheels are sprung from the skids by means of rubber shock absorbers in the usual way. An 80 h.p. air-cooled Renault engine, driving the propeller at half engine speed, gives the machine a speed of about 65 m.p.h.

FOREIGN AVIATION NEWS.

The Paris Salon.

IN another week the doors of the Grand Palais will again be opened to reveal the Paris Aero Show. As a matter of fact, the opening ceremony will be performed by the French President at 10 a.m. on Friday next, and the Show will remain open until Christmas Day. Under the superintendence of M. Granet, the *Commissaire Général* of the Salon, whose splendid organisation has done so much to further the success of the Aero Shows, the Grand Palais is being transformed into a French garden, with statues and vases of flowers, so that the aeroplanes, &c., will this year be seen in a beautiful setting.

Vedrine Flies from Nancy to Prague.

AFTER the little contretemps which occurred at Nancy about a month ago, little has been heard of Jules Vedrine, but on Thursday of last week he left Nancy on his Blériot machine, accompanied by his mechanic. His destination was kept secret until the last moment, although it was known that he had been endeavouring to secure permission to fly across Germany. This had been refused, but it eventually proved that, entirely undaunted, Vedrine had flown right across Germany without a stop and landed at Wysotschau, close to Prague in Bohemia, having covered a distance of 650 kiloms. in 6 hrs. 20 mins. On the following day he flew on to Vienna, taking 3½ hrs. for the distance of 300 kiloms. Vedrine has stated that he intends to fly on to Constantinople and from there continue

his journey either down to Ceylon or to Lake Chad in the Soudan. Vedrine's two-seater Blériot has an 80 h.p. Gnome motor and Integral propeller.

An Aerial Postage Stamp Wanted.

FOR the aerial mail service which the French Government proposes to start between Paris and Nice before very long, it is proposed, as we recently anticipated, to have a special stamp printed. The design is to be the subject of a competition, but M. Masse, the Minister of Commerce, has suggested that the main portion of the design should show an aeroplane flying round the Eiffel Tower.

Paris to Bordeaux and Back.

IN an attempt to beat Seguin's record for the Ae.C.F. Criterium, Gilbert, on his Morane-Saulnier monoplane, left Villacoublay on the 20th inst. He had to land at Pauillac, after flying round and round in the fog for nearly an hour. Later, he went on to Bordeaux, and the following day he succeeded in flying the 500 kiloms. back to Paris in 3 hrs. 35 mins., including a 20 min. stop at Poitiers.

Other Attempts for the Criterium.

ALSO in an attempt for the Ae.C.F. Criterium, Letort, on a H. Farman, set out from Buc early on the morning of the 19th. He was, however, obliged to give up at Blois on account of magneto trouble.

Fine Flight by French Military Aviator.

ON Saturday Lieut. Delvert arrived at Bourges after a very fine flight on a H. Farman from Etampes.

New Farman Military Pilots.

ON the 19th inst., Lieut. Provillard, on a Farman, made the triangular flight for his military or superior *brevet* over the Buc-Chartres-Orleans course. A similar flight was made by Rene Germain over the 220-kilom. course, Etampes-Vendome-Chateaudun.

Helen's Try for Michelin Cup.

FOR another week Helen on his Nieuport monoplane has continued to make five laps per day of the 106.6 kilom. circuit between Etampes and Circottes. Up to Sunday night Helen had flown 12,792 kiloms. during 24 consecutive days.

The Fatal Accident to Perreyon.

By the mishap at Buc on Tuesday which cost Perreyon his life, the Blériot school has lost one of its best pilots, although his name was but little known beyond the circle of those intimately connected with aviation. Having qualified for his pilot's certificate at the Blériot school at Etampes in December, 1910, he continued to practise for some six months or so, and was then appointed *chef pilote* and instructor. From that time he made a habit of making a flight once a day, irrespective of the weather. It will be remembered that he holds the world's height record with 5,880 metres (19,293 ft.). On Tuesday morning he set out to test a Blériot monoplane of a new type with the pilot's seat arranged at the front of the main plane, and with the engine and propeller at the trailing edge. After a good flight he was preparing to land, but apparently miscalculated the distance when making too sharp a dive when about only 20 yds. from the ground. The nose of the machine struck the earth, and the monoplane overturned on to the pilot, who was killed by being crushed by the engine.

More Looping the Loop.

ON a Caudron biplane fitted with 60 h.p. Gnome engine, Chanteloup gave a most extraordinary display of flying at Issy on Friday of last week, and at Juvisy on Sunday he looped the loop several times, made several horizontal circles in the air with the planes practically vertical, and also carried out the corkscrew twist.

At Villacoublay on Wednesday and Thursday week, Garros succeeded in looping the loop on the Morane machine on which he crossed the Mediterranean. On his first trial the machine was stalled just before completing the loop, and side-slipped for a considerable distance, but Garros was able to regain the control. On the second attempt, however, two perfect circles were made.

From America it is reported that at Los Angeles, Cal., on the 19th inst., Lincoln Beachey, on a specially built Curtiss machine, succeeded in looping the loop at a height of 3,600 ft., and flew upside down for a short distance. He also made a dive in the form of a Z.

On Sunday, Pegoud gave a demonstration at Munich, while on Thursday week Hanouille did some looping on his Blériot at Buc.

An Involuntary Looping.

WHILE making an attempt at Etampes on the height record Rost had a most exciting few moments. He had got to a height of about 4,500 metres, when he found the wind took the machine out of his control. The machine dived, and according to an eyewitness it somersaulted about twenty times. Fortunately after the machine

had dropped in this way for about 3,000 metres, the pilot never having lost his head, no doubt through the lessons taught by Pegoud, was able to regain control, and managed to effect a safe landing.

Fast Flying on Deps.

ON new two-seater 80 h.p. Deperdussin monoplanes, Lieuts. Redelsperger and Radisson, accompanied by their mechanics on Saturday, flew the 150 kiloms. between Rheims and Douai in 1 hr. 10 mins.

A Nieuport Superior Pilot.

AT Villacoublay, on the 21st inst., Adrien Levasseur, a Comité Nationale pupil, made his first flight to qualify for a superior *brevet* over the Villacoublay-Orleans-Chartres course.

Mme. de Laroche Leads in Coupe Femina.

By a remarkably fine flight of 200 miles in four hours, on her Henry Farman biplane, at Rheims on Tuesday, Mme. de Laroche secured the first place in the competition for the Coupe Femina.

Another French Aviator Suspended.

AT the instigation of the French Minister of the Interior, the Commission Sportive Aeronautique has suspended the pilot's certificate of the pilot Landry for one month, for flying in contravention of an order by the *sous-préfet* of Sables d'Olonne.

Fatal Accident at Chantilly.

ON Monday afternoon the pilot Corbon was killed at La Vidamee aerodrome, near Chantilly, through the falling of his monoplane.

Long Cross-country Trip in Germany.

WITH a passenger, Lieut. Geyer on a biplane on Saturday flew from Strasburg to Berlin in 4 hrs. 25 mins., the distance flown being about 600 kiloms.

Bonnier's Trip Across Europe.

RESUMING his journey on the 21st inst., Bonnier with a passenger on his Nieuport monoplane, flew from Budapest to Arad, covering the 260 kiloms. in 3 hours. On Saturday he completed another stage by reaching Craiova, and on landing slightly damaged the machine which will entail some delay.

Daucourt's Flight to Cairo.

LEAVING Adabazar on the 21st inst., Daucourt and Roux flew to Eskichehir in Turkey in Asia, while on Saturday the two aviators arrived on their Borel monoplane at Theian. Further progress was made on Monday to Ihsain and on Tuesday to Konia.

Spanish Officers Under Fire.

TWO of the Spanish military pilots owe their promotion to their bravery under fire. Capt. Barreiro and Lieut. Rios were making a reconnaissance over a Moorish encampment, on Thursday of last week, when the Moors opened fire. Both officers were seriously wounded, but they succeeded in getting back to their base and then collapsed. They were taken to hospital and the commander recommended them for promotion for their bravery and endurance.

A Double Fatality in the U.S.

FROM San Diego, Cal., where the U.S. Army has an aviation school, it is reported that Lieuts. Ellington and Kelly, two of the finest pilots in the U.S. Army, were killed on Monday through their aeroplane falling.

EDDY WINDS OF GIBRALTAR.

AN interesting paper on the above subject was read by Mr. Henry Harries, F.R.Met.Soc., before the Royal Meteorological Society on November 19th last.

The author gives an account of some experiments he carried out at the Signal Station, which is situated about 1,300 ft. above the sea level, at Gibraltar in December of last year. The procedure he followed was to project small air balloons, black wadding and white cotton wool into the current of air ascending the eastern face of the Rock when an easterly wind was blowing, and observe their path during flight. It was found that when the velocity of the wind blowing was low (from 15 to 5 miles per hour), or if they were pushed out to an insufficient distance into the ascending stream, the wadding and cotton wool rose to a height of some 10 or 12 ft. at an angle of about 75° or 80° towards the west, and then curved downwards and backwards into the hands of the observers. The air balloons behaved in a similar manner, except that they travelled to greater heights and came to rest on the western slope, about 60 yds. from the starting point. With a stronger wind—about 30 to 40 miles per hour—the wadding and wool rose at a terrific pace to an altitude of about 100 ft., passed some distance to the westward, were caught by the current from the north, and as they were borne southward they performed the most graceful evolutions—circling, diving ascending, breasting local eddies and imitating in a very remarkable

manner the easy movements of gulls floating on the air, with their wings stretched out at full length. The resemblance was more marked because many of the bunches of fluff were so blown out by the wind that they seemed to have bodies and wings. From this reproduction of the realistic flights of birds—sea birds in particular—he was led to believe that the movements of birds on the wing, under similar circumstances, are not altogether voluntary on their part, the evolutions of the birds resulting from their being brought within the influence of aerial eddies of more or less intensity. At any rate, he saw little or no difference between the movements of living birds and those of the inanimate fluff thrown into the breeze. He thought that a closer study of these evolutions might provide aviators with clues as to the best methods of navigating through so-called holes or pockets in the air.

Mr. Harries also noted the effects produced by squall moving due west and east across the Bay. This raised a furrow of water which curled over from north towards the south—not a wave driven before a west wind and breaking with its front towards the east. He was disposed to regard it as caused by a descending squall from some northerly point arrested by a southerly or south-westerly wind, and considered that the phenomenon should not be ignored on account of its possible serious effects upon small boats and airships crossing the line of advance.

Models

Edited by V. E. JOHNSON, M.A.

The Rogers Tractor Biplane.

THIS model, which was designed and constructed by Messrs. J. E. and W. A. Rogers (Windsor), is their first tractor biplane. It is chiefly remarkable for its size and weight. Its total weight is no less than $2\frac{1}{2}$ lbs., made up as follows: Planes, 11 ozs.; rubber, 5 ozs.; fuselage, &c., 20 ozs. The fuselage is of triangular section 5 ft. in length, and covered in with aluminium. The landing chassis is of ash. The wheels are rubber sprung, and are 3.5 ins. in diameter. The propeller is of the Garuda type, 18 ins. in diameter, and has a pitch of 18 ins.; it is driven by four skeins of 14 strands $\frac{1}{4}$ -in. strip rubber, geared together as shown in the drawings. The length of the strands is 3 ft. 3 ins. The area of the top main plane is 442 sq. ins., and of the lower 224 sq. ins. The tail plane has an area of 150 sq. ins. The elevators have each an area of 26 sq. ins., and the rudder 20 sq. ins. The longest flight accomplished so far is 110 yds., which, considering the weight, &c., of the model is certainly a noteworthy achievement. The width of the landing chassis is considerable, and is a distinguishing feature of all Messrs. Rogers models.

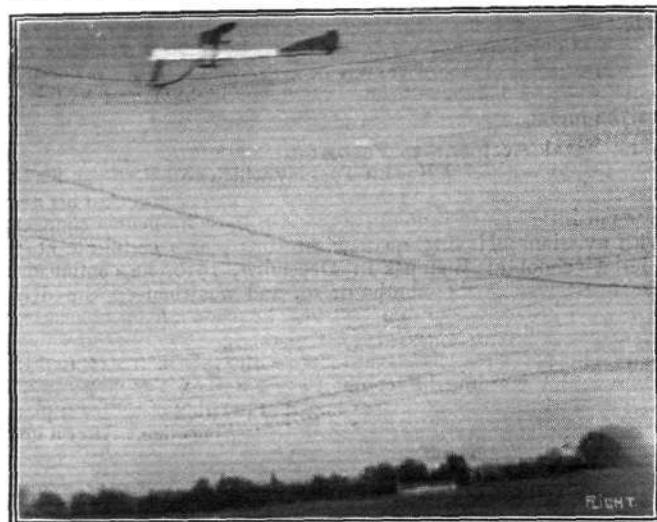
It will be seen from the foregoing and also from the accompanying illustrations that this model is one quite out of the ordinary, and we should certainly like to see similar ones more in evidence. It would be interesting to know the duration, speed, and usual altitude at which the model flies.

The Problem of the Ornithopter.

(Continued from page 1233.)

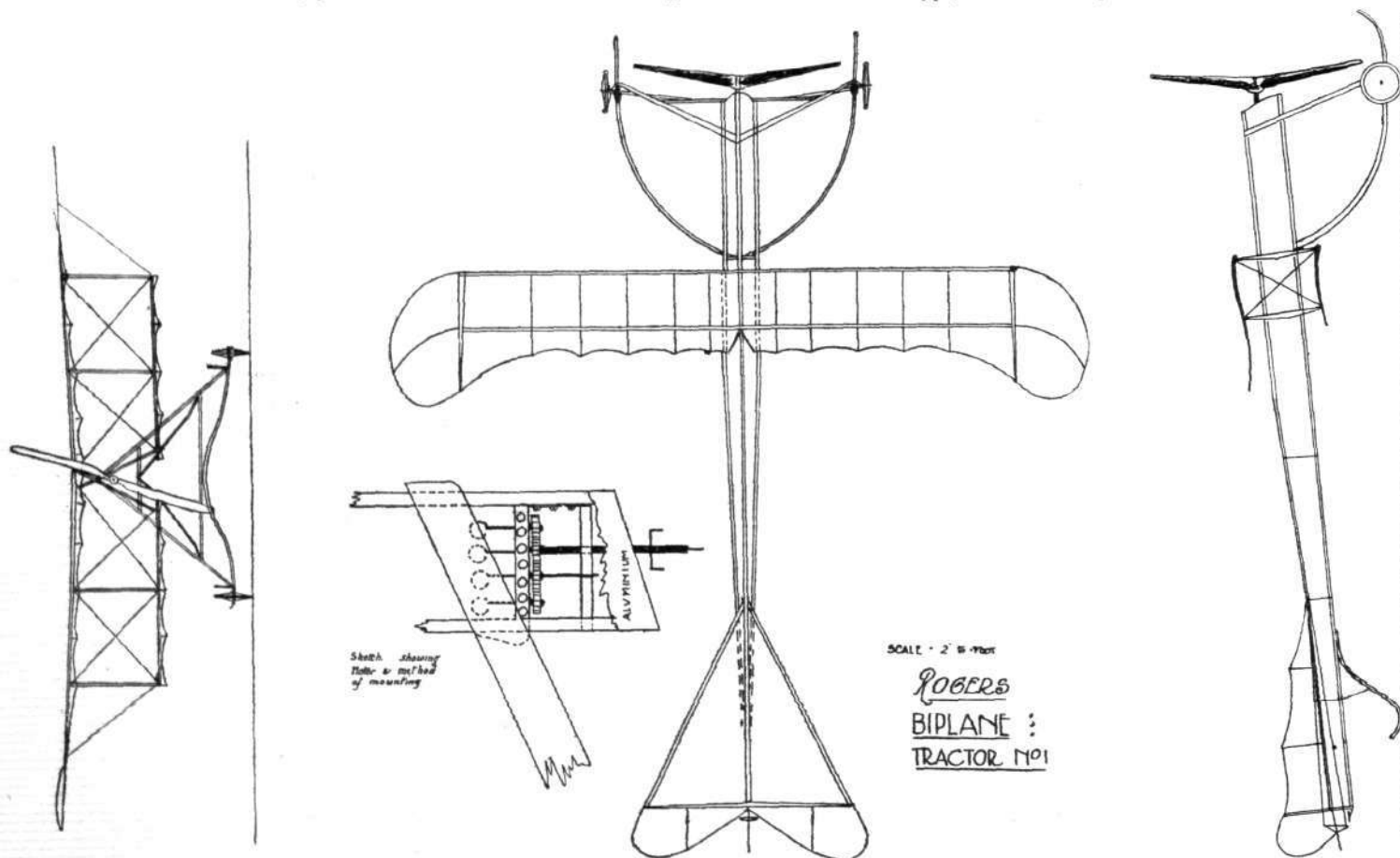
Mr. E. E. Wilson's Models.

"Herewith," writes Mr. Wilson, "I send you some diagrams of two distinct types of ornithopter models which I have designed and constructed, and which may prove both instructive and interesting



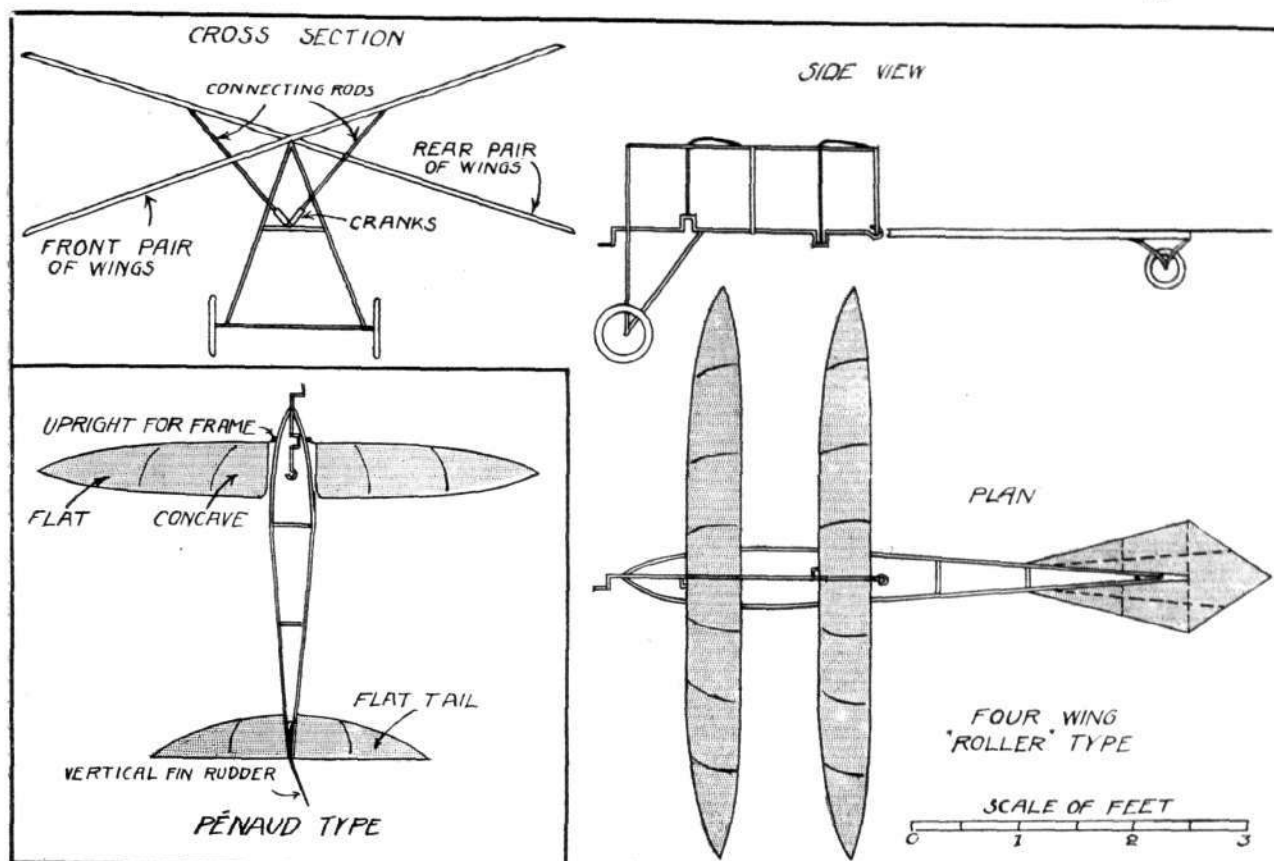
Messrs. Rogers' model in full flight.

aeronautical journals. As a matter of fact, I finally had recourse to roughly knocked together models fitted with cranks of various sizes, &c., experimental motion studies I termed them. Other mechanical movements were also tested in a similar manner prior to building a complete experimental model. I may add that personally I do not favour this type, in which the point of attachment of the



to other model ornithopter students. One is a Pénau type model, which I was desirous of testing in order to note how the action or motion of the wings act in practice. As will be seen from the drawings, this model is of extremely simple construction, but very difficult to grasp when studying the published drawings in the old

connecting rods is fixed to the inner ends of the levers (or wings), preferring the point of attachment out from the shoulder or away from the fuselage, not inside it. The two longitudinals are $\frac{1}{4}$ -inch section, 3 ft. long, the span 2 ft., chord 6 ins. (maximum). The central portion of the wings being deeply cambered, the mechanism



works fairly smoothly, and this type of model is a good glider. The second or *roller* type is one that is very little known, although the principle has been advocated by Jobert, Holland, as, well as Henry McKee. The last-mentioned, during 46 years of study, first attracted my attention to this principle, and is the only one whom I have yet met who has made ornithopter models really fly. They were simple contrivances with loose surfaces to test the late Mr. Breary's "skate" theories.

The roller type, of which I enclose a diagram, is of my own design. Mr. McKee uses the same motion but different construction; this motion was also employed by Jobert, Holland and others. In mine the crank throws are equal, and the front connecting rod is affixed to the right of the front pair of wings, and the rear connecting rod is fixed to the left of the rear pair of wings. [The diagram shows the two cranks at the top of the throw. It should be carefully noted that each "pair" of wings forms one rigid structure, they are not "hinged" in any way, the two pairs thus working like a double see-saw pivoted about their respective centres.] The smooth working of this type, so far as the mechanism is concerned, leaves nothing to be desired, whilst one of the chief points in its favour is that if (in the case of a full-sized machine) the motor stopped the machine would glide down, no matter what the degree of amplitude might be. [That is, we presume, the particular position in which the wings were when the motor stopped.] I may add that I also constructed a four-winged model on the principle of the dragon fly, in which the wings rose anteriorly and conversely fell posteriorly [The meaning intended here is not quite clear], which precluded or obviated this fatal tendency inherent in the two-winged type. This model I also hope to show at Olympia as well as the other. In this type there are no pectoral cords, the principle, which was originally proposed by Mr. F. H. Wenham at the inaugural meeting of the Aeronautical Society in 1866, and not Major R. F. Moore or Pettigrew, as stated, although both the latter have accomplished valuable spade work in the science of ornithopters. In addition to the foregoing, I have also built wings up to 14 ft. span by 4.5 ft. (maximum chord), both deeply cambered, and also perfectly flat. The weight of these wings was only some 2.5 lbs. They were semi-rigid anteriorly in the inner half of the pinion, tapering to a fine point at the tip and posteriorly. I tried these as gliders from the top of the Watkin Tower at Wembley, and I also tested one of the wings held in my hands, beating it in a strong gusty wind (it used to blow up there) in order to test if my power was sufficient. I found that some 30 complete up and down strokes or beats [per minute?] could be given even against the wind, the artificial wing acting as a very powerful propeller, elevator, and sustainer (*vide* Pettigrew). That the ornithopter on a full-sized scale is both practicable and withal simple I am personally convinced, and I

should be very pleased to describe further my present full-sized 'mono-ornithopter' if any reader would kindly photograph the same. The remarkable performances of the natural ornithopter, the bird, never ceases to excite both our wonder and our admiration. Take for example the tiny golden plover of America, which, disdain the vast stretch of sea beneath it, makes a non-stop flight of 2,000 miles from land to land across the Gulf of Mexico by means of its swiftly beating wings."

(To be continued.)

Messrs. T. W. K. Clarke and Co.'s Propeller Fixing.

A very neat little propeller fixing has just been put on the market by the above firm, of which we give this week an illustration. We suppose the majority of aeromodelists still use propellers of this type, and there was certainly a need for a well-designed and quickly



Messrs. T. W. K. Clarke's new aluminium bentwood propeller fixing.

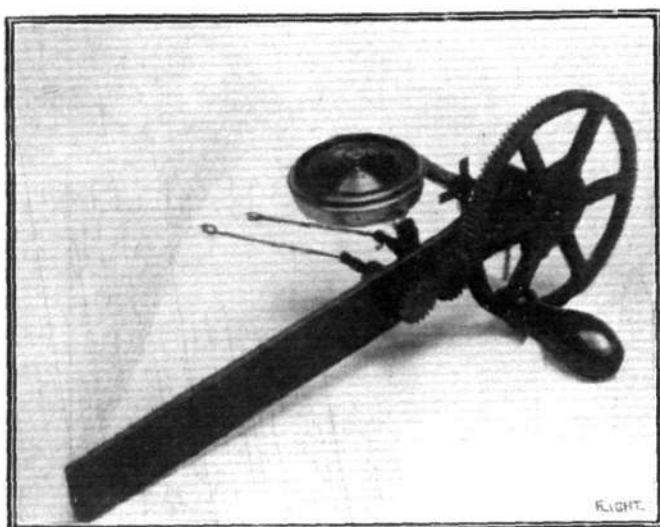
adjusted fixing. The steel wire axle is firmly fixed into the aluminium boss and will not draw out or work loose, and should the propeller be broken a new one can quickly be replaced, the only part requiring renewal being the little pin or rivet. The price is 4d. each. The appearance of the little device is all that could be desired.

Model Scale Drawings.

Mr. S. E. Grimstone, writing with reference to the list recently given in *FLIGHT*, and our request that readers would kindly supply any omissions, calls our attention to the fact that the Plummer r.o.g. hydro, embodying both wheels and floats, and which appeared in July 16th issue, was not included in the list.

Mr. F. Mayer's Twin Winder.

"I enclose herewith," writes Mr. Mayer, "a photo of my latest creation, a geared twin winder for winding up twin-screw models from the end opposite to the propellers. All that you have to do when using it is to be sure and turn the milled knob on the dial to the number of turns wanted, and grind away at the handle until the pointer comes to zero. So simple, so comfortable, no counting; quite easy to wind up a twin-propeller model in about one-half the time taken to count the number of turns. The loose and flexible spindles allow for varying centres on the hooks of the motors, all others only allow of one fixed distance of centres. The dial is divided



Mr. F. Mayer's twin winder for models.

nto 15,000 turns, and so is not likely to be out of date just yet. Other adapters can easily be fitted in place of the hooks shown."

There is no doubt that the idea of fitting on a little dial, which saves all trouble of counting, is a great gain, more especially when people will persist in talking to you whilst you are winding up. I have noticed this frequently at meetings; the sound and sight of a winder twirling away seems to exercise an extraordinary influence on some people. Straight away the strings of their tongues

are loosened, and they ply you with questions, generally more or less idiotic; and, what is more, they persist until they can tell from the look of your eye that they have succeeded in "putting you out" in more senses than one, whereupon they quickly retire and seek some other unhappy wretch and repeat the same business. One day this will end in trouble, unless we adopt Mr. Mayer's system which shifts the boot on to the other foot.

Mr. Mayer is not the only one, however, who employs flexible connections. A short time ago the writer made a double winder out of a $5\frac{1}{2}$ d. egg-beater, and employed steel wire hooks very similar to Mr. Mayer's. A double winder wants to be strong and well made, with a good handle to grasp or crutch to rest on, as the winding effort becomes considerable as soon as the number of strands get above a certain number.

Model Competitions on Handicap Lines.

The question raised by Mr. A. M. Barrow in November 15th issue is one of vital importance so far as the sporting side of model aeroplaning is concerned. It is not, however, the first time that reference has been made to it. There is no doubt that any model club which wishes to add to its numbers, popularity and usefulness next flying season must consider this all-important question. It is common to every form of sport, without exception, and it would be perfectly superfluous for us to go into the question of the why and wherefore. The present winter season affords an excellent opportunity for a discussion of the same in these pages, and for the submitting of schemes to the K. and M.A.A. for consideration. Every competitor in any contest likes to feel that he stands a "sporting chance," and as matters are at present not unfrequently arranged, it certainly appears to an outsider that such is not always the case. To make all competitions handicap ones would be manifestly absurd—but that a very fair proportion should be such is, without a doubt, what is wanting. We shall be pleased to hear from correspondents further on this matter.

KITE AND MODEL AEROPLANE ASSOCIATION.

Official Notices.

British Model Records.

Single screw, hand-launched	Duration	D. Driver...	85 secs.
Twin screw, do. ...	Distance	R. Lucas ...	590 yards.
	Duration	G. Hayden ...	137 secs.
Single screw, rise off ground	Distance	W. E. Evans ...	290 yards.
	Duration	W. E. Evans ...	64 secs.
Twin screw, do. ...	Distance	L. H. Slatter ...	365 yards.
	Duration	J. E. Louch ...	2 mins. 49 secs.
Single-tractor screw, hand-launched ...	Distance	C. C. Dutton ...	266 yards.
	Duration	J. E. Louch ...	91 secs.
Do., off-ground ...	Distance	C. C. Dutton ...	190 yards.
	Duration	J. E. Louch ...	94 secs.
Single screw hydro., off-water ...	Duration	L. H. Slatter ...	35 secs.
Single-tractor, do., do. ...	Duration	C. C. Dutton ...	29 secs.
Twin screw, do., do. ...	Duration	L. H. Slatter ...	60 secs.

Official Trials.—The official observers of the Association visited the ground of the Paddington and District Aero Club at Sudbury, on Saturday, 22nd, for observing the trials for the purpose of establishing records. The members of the Paddington Club managed to capture three records, viz., Mr. D. Driver, who raised the single-screw h.l. record from 49 secs. to 85 secs., and Mr. W. E. Evans, hon. sec. of the P. and D.A.C., established two new records for single-screw r.o.g., with 290 yards and 64 secs., while Mr. G. Hayden, of the Wimbledon Club, raised the twin-screw h.l. record from 129 secs. to 137 secs., and Mr. J. E. Louch, of the Leytonstone Club, raised the single-tractor h.l. and r.o.g. duration records from 68 to 91 secs., and 45 to 94 secs. respectively. The official observers were: Messrs. F. Mayer and W. H. Akehurst.

Kite Competition.—The Kite Contest for the best practical use to which kites can be put will, weather permitting, take place to-day (Saturday) on Wimbledon Common, at 3 p.m. The methods to be demonstrated will be wireless telegraphy, life-line carrying and signalling.

Demonstration of Kite and Model Flying.—There will be also a demonstration on the Common, and it is hoped that as many kiteists and modellists as possible will turn out to give a good show. A dinner will afterwards be held at the Wimbledon Hill Hotel, at 7 p.m., and during the evening a short outline of the future scientific, patriotic and sporting work of the Association will be given.

27, Victory Road, Wimbledon.

W. H. AKEHURST, Hon. Sec.

AFFILIATED MODEL CLUBS DIARY AND REPORTS.

CLUB reports of chief work done will be published monthly for the future. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

Aero-Models Assoc. (N. Branch) (25, CHURCH CRESCENT, MUSWELL HILL, N.).

Nov. 29th, practice, 3 p.m. Nov. 30th, practice, 10 a.m. and 3 p.m. Dec. 1st, committee meeting, 8 p.m. Dec. 4th, indoor meeting, 8 p.m.

Monthly Report.—The annual competition for the Enfield Challenge Cup (duration and stability, r.o.g.) took place on Nov. 1st, 15 out of 18 entrants putting in an appearance. 500 marks were allotted, 150 for duration, 50 for stability. The result was as follows:—1st, J. McBirnie, 117½ marks; 2nd, F. G. Hindsley, 112; 3rd, C. C. Claffin and L. Tosh, 102. Messrs. M. B. Ross and G. W. Pidsley acted as judges. Mr. H. E. Fletcher, the holder 1912-13, was unfortunate enough to smash his model while tuning up. After the flying Miss E. Matthews kindly presented the Enfield Silver Medal to Mr. H. E. Fletcher on relinquishing the cup, and the cup to Mr. McBirnie, holder for 1913-14. Mr. C. C. Claffin has been devoting his attention to the acquisition of club

records, which now stand as follows:—Twin-screw h.l.: Distance, C. C. Claffin, 455 yds.; duration, C. C. Claffin, 74 secs. Single-screw h.l.: Duration, H. D. Murray, 69 secs. Twin-screw r.o.g.: Duration, F. G. Hindsley, 78 secs. Tractor h.l.: Duration, C. C. Claffin, 52 secs.; distance, C. C. Claffin, 410 yds. Mr. C. C. Claffin on Nov. 16th obtained a flight of 50 secs. duration and 410 yds. distance with a $4\frac{1}{2}$ -oz. tractor, winning the A.M.A. silver medal for 40 secs. tractorplane flight, and the following Saturday broke his own duration record with a fine flight of 52 secs. His model, which is not fitted with gears, climbs at a remarkable angle, and flies steadily, ending with an excellent glide. A branch of the association is being formed at Hendon, where an opening meeting will be held shortly. The Tottenham branch is being reorganised on a semi-independent basis. Hendon aeromodellists should apply for particulars to Mr. E. W. Brown, of 8, Montague Road, Hendon, N.W., or to the secretary, Tottenham aeromodellists should communicate with Mr. H. D. Murray, of 387A, High Road, Tottenham, or to the secretary. A challenge shield is being bought to be competed for quarterly among the members. The secretary will be glad to hear of any gentlemen willing to assist in defraying the expense. The shield will be first competed for Jan.-March, 1914, and will be won by the member obtaining the highest marks for duration, stability and construction of single-screw tractor during that period. Full particulars will be announced in due course. The indoor meetings are now being held weekly on Thursday nights, from 8 o'clock to 10.30, and a varied programme is being carried out of papers, lantern lectures, debates, &c. To bring together the new members from Tottenham and Hendon, a concert will be held on Dec. 11th, 1913.

Record of Work.—J. McBirnie: 8-oz. r.o.g. 1-1-0-P2, carved propellers (winner of Enfield Cup), flies high and glides well; duration, 68 secs. Also 5-oz. 1-1-0-P2 of similar type. F. G. Hindsley: $5\frac{1}{2}$ -oz. 0-1-1-P2, 11½ ins. G.H. propellers, flies fast and high (2nd in Enfield competition, full marks for stability), 62 secs. r.o.g., 70 secs. h.l., 400 yds. distance. On one occasion when fitted with Lanchester fins, hovered against wind practically stationary for 30 secs. 1-oz. 0-1-1-P2, 30 secs. at great height. Also $5\frac{1}{2}$ -oz. speed 0-1-1-P2 model flies about 2 ft. off ground for 150 yds. C. C. Claffin: $4\frac{1}{2}$ -oz. 1-1-0-P2 (tied 3rd for Enfield Cup), G.H. propellers, 57 secs. r.o.g.; $4\frac{1}{2}$ -oz. 1-1-0-P2, 76 secs. h.l. and 455 yds.; 5-oz. do., 74 secs. h.l. in strong wind, and $4\frac{1}{2}$ oz. P-1-1, 52 secs. h.l. and 410 yds., very stable in strong wind. L. Tosh: 4-oz. 1-1-0-P2 (tied 3rd for Enfield Cup), 9 ins. bent propellers, 57 secs. r.o.g., not very steady. R. L. Rogers: $6\frac{1}{2}$ -oz. 40 ins. length 40 ins. span, A frame, 1-1-0-P2, 11 ins. carved propellers, very steady, 46 secs. h.l., landing in tree, very promising machine. Same model fitted with floats, two front one behind, got off the water easily and flew well. W. E. Knight: 7-oz. hollow spar 1-1-0-P2, 10 ins. laminated propellers, 45 secs. r.o.g., fast machine. T. W. Dann: $6\frac{1}{2}$ -oz. 36 ins. by 30 ins. A frame, 1-1-0-P2, 10 ins. Slatter type propellers, very fast, 44 secs. r.o.g. H. E. Fletcher: $4\frac{1}{2}$ -oz. 0-1-1-P2, 9 ins. bent propellers, 37 secs. r.o.g. G. O. Partridge: 39 ins. by 36 ins. A frame, 1-1-0-P2, 35 secs. r.o.g. Also 4-oz. P-1-1, small hollow spar. S. F. Bond: $5\frac{1}{2}$ -oz. 42 ins. by 36 ins. 1-1-0-P2, 11 ins. Levasseur type propellers, about 60 secs. and $\frac{1}{4}$ -mile in half a gale. 42 ins. by 36 ins. H spar twin-gear tractor, rolling on rough grass and flying slowly but steadily at nearest obstacles. H. R. Weston: $6\frac{1}{2}$ -oz. A frame. A. King: $6\frac{1}{2}$ -oz. A frame. E. Coleman: 40 ins. by 32 ins. $6\frac{1}{2}$ -oz. A frame, 1-1-0-P2. Also 36 ins. by 28 ins. H spar 1-1-0-P2, flying well. N. Coleman: 7-oz. 39 ins. by 30 ins. 1-1-1-P2. A. Root: 9-oz. A frame, fast machine, about 40 secs., very steady. Also P-1-1, twin-gear, about 30 secs., frequent and extensive breakages.

Croydon and District Ae.C. (158, HIGH STREET, CROYDON).

Monthly Report.—This club is now affiliated to the K. and M.A.A. A great deal of important work has been done during Nov., both from an experimental and flying point of view. Messrs. C. and H. Smith have been out with very original models, fitted with planes of the Dunne type. Mr. H. Smith's model, a biplane, has made some exceedingly stable flights in a very high wind, though a more efficient propeller is required. Mr. C. Smith's model is a monoplane, and it has made some good flights, but great difficulty was experienced in getting the right elevation. Mr. Bell has had many fine flights of over 50 secs. with his neat little r.o.g. machines, as also have Messrs. Mullins, C. Smith, and Carter.

Mr. Carter's monoplane is a very nice piece of work, and a splendid flyer. Messrs. D. Pavely and H. Smither have been out with two very nice hydros. Mr. Pavely's is fitted with a plane something like a Borel, and this is not so efficient as his old type, which he used with success in the Royal Aero Club competition at the Welsh Harp. Total weight of model 9 ozs. Messrs. Bell, Mullins, and Hart are building hydros, which should be out next week end. With tractors, Messrs. Taylor, Carter, Pavely, Finnigan, and Hart have been flying. Mr. Hart has made a Morane-Saulnier type model. All the members are busy constructing new models, and there should be a good display during the winter months. The new workshop is quite warm on cold evenings, and is greatly appreciated. A general meeting is held every Monday evening, and some interesting debates have taken place.

Leytonstone and District Aero Club (64, LEYSPRING ROAD).

Nov. 30th, at 10 a.m., model flying as usual. If wet meet at clubroom. Dec. 3rd, at 8 p.m., committee meeting at 64, Leyspring Road. Dec. 4th, at 8 p.m., instruction at clubroom, subject, "Floats."

Monthly Report.—Although there have been no competitions this month, a great deal of good flying has been accomplished in very adverse weather. On Nov. 2nd, 19 members assembled, and the models flown included hydros,

Dutton, second, 57 secs.; Mr. W. Evans, third, 53 secs.; Mr. M. Levy, fourth, 48 secs. On Nov. 8th, the contest resulted in still closer finishes. Mr. D. Driver won with 59½ secs., Mr. C. C. Dutton being again second with 56 secs., Mr. W. Evans 55 secs., and Mr. F. Johnson 53 secs. On Nov. 15th, the competition was for single screw duration, h.l. and r.o.g. combined, the r.o.g. models having 20 secs. added to their score. Being windy, the performances were below expectations. The result was another win for Mr. C. Driver, 72½ secs.; Mr. W. Evans, second, 63 secs.; Mr. M. Levy, 57 secs.; and Mr. C. C. Dutton, 47 secs. This led up to the final effort at the K. and M.A.A. official trials on Nov. 22nd, when the club broke one record and established two others. Mr. D. Driver raised the single screw h.l. duration record from 49 secs. to 85 secs., and Mr. W. Evans made two records, viz., single-screw r.o.g. duration 64 secs., and single-screw r.o.g. distance 290 yards nett. In accordance with a rule of the club, Messrs. D. Driver and W. Evans are awarded silver-gilt medals for making and breaking records. The club now holds six official records out of a total of fourteen.

Sheffield Aero Club (35, PENRHYN ROAD, SHEFFIELD).

Monthly Report.—Oct. 25th, at the aerodrome, Mr. G. Askew with a h.l. machine accomplished a magnificent flight of 125 secs. duration, being 4 secs.



Photo by C. F. W. Cudworth.

R.O.G. contest for the "Colver Cup," in which Mr. H. Slack proved the winner. Names and order of members as follows:—1. R. E. Rayner. 2. G. Askew. 3. H. Slack (the winner). 4. E. Birchenough. 5. A. V. Kavanagh (judge). 6. W. H. Bagshaw. 7. E. Elliott (who also officiated as judge). 8. G. H. Dewsnap. 9. C. E. Worrall (youngest member of the club). 10. H. K. Clarke (with Mr. Cudworth's machine). 11. C. Dewsnap. 12. J. P. Worrall (the previous holder of the "Colver Cup").

tractors, r.o.g., and single screws. Messrs. Bedford and Grattan, with hydros, had no difficulty in leaving the water, but a boisterous wind spoilt all attempts at duration. Mr. S. C. Hersom obtained good duration with his r.o.g., 60 secs. and over on several occasions, and other r.o.g.s. were flown by Messrs. Ludlow, W. Hersom, Kimpton, and Woods; Mr. Osborns tuning up single screw r.o.g. Several other members were flying hand-launched models, and Mr. F. E. Grattan short flights with single tractor. Nov. 9th, the weather was favourable, and 29 members flew models during the morning. Mr. Bedford, with his hydro, got 40 secs. duration. Messrs. G. Hawthorn, H. G. Bond and F. E. Grattan flying with tractors; r.o.g. were flown with varying success by Messrs. Bedford, Grattan, Ludlow, W. Hersom, S. C. Hersom, F. Hawthorn, Bond, Kimpton, and Wood. A number of other members were flying hand-launched models, the best performance being 97 secs. by Mr. S. C. Hersom. On Nov. 16th, 18 members braved a gale, and some good results were obtained. Mr. Bedford brought out a new hydro, which at its first flight did 47 secs. This model is 3 ft. 6 ins. long, and Mr. Bedford has kept the weight down to 6 ozs. Messrs. F. Hawthorn and F. E. Grattan were also obtaining good flights with hydros. Mr. G. Hawthorn brought out his h.p. tractor. Mr. F. E. Grattan with 12½-oz. double-surfaced tractor, rebuilt from Olympia model. The weight has been reduced by 2½ ozs., but rough weather prevented tuning up; r.o.g.s. were flown by Messrs. F. Hawthorn, H. Bedford, T. Wood, Pitt, H. Bond, and T. Kimpton. Six hand-launched models were in evidence, Mr. S. C. Hersom's again putting up best duration. On Nov. 23rd, flying commenced in thick fog. Mr. F. Hawthorn, with hydro, did 30 secs., Mr. F. E. Grattan, also with hydro, 43 secs., and Mr. H. Bedford, with his new 6-oz. hydro, obtained 57 secs., the model finishing its flight in the branches of a tree. Mr. F. E. Grattan's 12½-oz. tractor rises from the ground with tail well up, and at a fine angle, and flies very steadily. Mr. H. Bedford brought out a tractor 6-oz., which rises from the ground, and has good duration. Twice Mr. S. C. Hersom obtained 82 secs. with r.o.g., Mr. F. Hawthorn, 56 secs.; Mr. F. Wood, 56 secs.; and Mr. T. Kimpton, 53 secs. Other r.o.g.s. were flown by Messrs. B. Ludlow and H. G. Bond. Hand-launched models were flown by Messrs. A. Hoare, W. Hersom, and J. Gardiner. During the month four indoor meetings were held at the club workshop, when demonstrations in construction were given by Messrs. H. G. Bond, S. C. Hersom, F. Hawthorn, H. Bedford, and F. E. Grattan.

Paddington and Districts (77, SWINDERBY ROAD, WEMBLEY).

Nov. 29th, flying at Sudbury as usual.

Monthly Report.—During last four weeks members have turned their attention to single propeller models with a view to making a prominent show at the official trials last week. Competitions with prizes have therefore been held each week for this particular type of model. The first contest, on Oct. 25th, r.o.g. duration, was won by Mr. W. Evans, 51 secs., Mr. C. C. Dutton winning second prize with 47½ secs., and Mr. Driver close up third with 45½ secs. A similar competition on Nov. 1st resulted in a win for Mr. D. Driver, 69½ secs. Mr. C. C.

behind British record. Nov. 1st, at Standhouse aerodrome, ten members competed for the third time for the "Colver" Cup, with r.o.g. machines. The weather was far from suitable, as the cross air currents gave a great deal of trouble to the machines. There was an admirable display of workmanship in design and construction. Mr. G. Askew was leading until the final, third round, when Mr. H. Slack rushed up 3 secs. ahead of him, thus becoming the winner of the cup, which he holds for the next six months. Mr. W. H. Bagshaw tied in duration with Mr. Askew. Some capital flights were witnessed after the close of the contest, machines belonging to Messrs. W. H. Bagshaw, R. E. Rayner, E. Birchenough, G. Askew and G. H. Dewsnap. The judges were Mr. A. V. Kavanagh (late President of the Sheffield and District Aero Club) and Mr. E. Elliott. Mr. Kavanagh heartily congratulated all the members on the progress the club had made, and greatly admired the designs of the machines. Nov. 15th, general meeting at clubroom, Mr. H. Slack presiding. Decided that competitors' machines must be provided with protector of at least half-inch diameter either of wire or cane loop. Mr. Slack was presented with the "Colver" Cup for Nov. 1st result. It was decided that the next contest with tractor biplanes for the silver medal presented by Mr. Marcus D. Manton be held on Christmas Day, and the members hoped that Mr. Manton would be present. At the present time a number of the members are experimenting with power motors, such as compressed air, petrol and steam plants. Nov. 22nd, Mr. G. Askew proved the successful winner at the Manchester Model Aero Club's Open Competition with 110 secs.

Wimbledon and District (165, HOLLAND ROAD, W.).

Nov. 29th and 30th, flying as usual. Members specially requested to turn up on Saturday.

UNAFFILIATED CLUBS.

Edinburgh Ae. Soc. (Model Section) (13, HERMAND TERRACE).

On New Year's Day there will be a very large meeting at which representatives from Glasgow and Dundee aero clubs will take part. There will be five competitions, including an inter-city one, and there will be over a dozen prizes awarded. Persons not belonging to a club, but wishing to participate, may do so on payment of 6d. entry fee for each competition. Full particulars and rules for this meeting will be obtainable from the organiser of this meeting only, Mr. G. T. Cooper, 41, Drumsheugh Gardens.

Monthly Report.—Mr. J. L. Ramsay has been appointed secretary of the model section, to whom all communications should be sent. On Nov. 1st, a handicap duration competition was held at Davidson's Mains, the results were: 1st, H. Hartley (32 secs. handicap), 65½ secs.; 2nd, S. Harrison (32), 59½ secs.; 3rd, J. Hardy (3), 56½ secs. The following Saturday several members were out practising. Nov. 20th, there was a lantern lecture on "Aviation and its History," given by Mr. G. T. Cooper, when about 100 persons were present.

Finsbury and District (85, UPPER TOLLINGTON PARK, N.).

Monthly Report.—This club has been in existence ten weeks. Flying ground (*pro tem.*), Finsbury Park. On Nov. 15th, Mr. B. Mullins won the 14 ins. carved propellers, presented by Mr. S. Gibbs for duration. A club badge was also taken by the same member. On Nov. 22nd, Mr. S. Gibbs was out with his "M.G.M." mono., Mr. Barnard with biplane.

Liverpool Aero Research Club (62, CEDAR GROVE, LIVERPOOL).

Nov. 29TH, flying Sefton Park, 3 p.m. till dusk. It is probable that this will conclude the present season's flying, except individually.

Monthly Report.—Weather not favourable this month. On the 1st, A. G. Pugh out with 1-1-0-Pt. G. H. Kilshaw out every week-end with 1-1-0-Pt. B. Tear 1-1-0-Pt. Mr. T. Beale with new mono. M. Payne and W. F. Woods are building tractor machines. At the general meeting, Nov. 14th, decided to hold an exhibition early next year, probably for two days, when a specially-designed Trophy will probably be offered for competition. Now that indoor work will be the chief item, experiments with power-driven machines would be extremely useful, as well as apparatus, &c., for testing purposes. The secretary has at present in hand a fairly-large power-testing apparatus, which will shortly be completed.

Manchester Model A.C. (890, CHESTER ROAD, STRETFORD).

DEC. 13TH, open duration competition, particulars at the lecture on Dec. 1st. *Monthly Report.*—Owing to inclement weather during past month there is little to report. Messrs. Jackson, Kenworthy and Huntingdon have been out with new r.o.g. hollow spar models, and Messrs. Broadhurst and Watson with tractors. In the open competition that was held, Mr. Askew, of the Sheffield Aero Club, obtained the first place with 118 marks, and Mr. Kenworthy (M.M.A.C.) second place with 77 marks, the third and fourth prizes being withheld owing to insufficient entries. It is hoped that all will make an endeavour to be present at the lecture, as a good audience is expected and much depends on the result.

Scottish Ae.S. ("ROCHELLE," LIMESIDE AVENUE, RUTHERGLEN).

Nov. 29TH, Dec. 13th and 27th, Paisley Racecourse, h.l. machines, tractors, &c.

Monthly Report.—Nov. 1st, members at Paisley successfully attacked Scottish h.l. records, J. C. Balden's best flight being 80 secs. To show that it was not due to fortune, other flights obtained were timed at 69½, 62½ and 68 secs. Mr. Ross also made a number of good flights. Nov. 15th, members visited Milton of Campsie at the invitation of Mr. Ross, but the afternoon was very wet and very little flying was attempted. After tea, we were treated to a cinematograph display of flying films, including the Aerial Derby and Pegoud at Brooklands. It has been arranged that the Inter-club Championship is to be competed for at Edinburgh, on Jan. 1st, between Edinburgh, Dundee and ourselves. The conditions are:—Teams of three members from each club; types of machines: h.l. monoplane, h.l. biplane and r.o.g.; two events: distance and duration: points to be awarded as follows: 1st, 10 marks; 2nd, 7 marks; 3rd, 4 marks; team with greatest aggregate winning. Mr. Forsen has been busy in the workshop constructing planes for full-sized monoplane, and we hope to be able to report successful results later on.

S. Eastern Model Ae.C. (I. RAILWAY APPROACH, BROCKLEY).

Nov. 29TH, meetings Woolwich Common, 3.30 p.m. until dusk. Nov. 30th, Blackheath. 7.30 to 10 a.m.

blackheath, 7.30 to 10 a.m.

Monthly Report.—Messrs. G. Brown, A. D. Nicholls, F. Plummer, G. H. Westwood, S. E. Grimstone (assist. hon. sec. and treasurer), and A. B. Clark (hon. soc.) have been elected to constitute the managing committee for 1914. As announced in the last report, an exhibition of model aeroplanes, &c., will be held at the end of this year in a convenient South London hall, and the owner of the best model, or most interesting exhibit—to be decided by voting amongst the visitors—will hold the South-Eastern Trophy for the ensuing three months. Members are requested to push on with the construction of their exhibits, as time is short. The next contest for the South-Eastern Trophy (January–March quarter) will, as mentioned in last month's report, be a "stability" contest. This will be on the lines suggested by the club's president (Capt. H. F. Wood) *i.e.*, models will be required to make flights in four different directions, viz., down wind, into the wind, and across the wind in both directions, and fly on that course for a stated time, to be decided later, without any deviation whatever. Messrs. J. Bonn and Co., Ltd., of 97, New Oxford Street, W.C., have kindly offered material to the value of 25s., as a prize for a weight-carrying competition. This will be for r.o.g. propeller models, weighing not more than 8 ozs. in complete flying trim (exclusive of weight carried). The amount of weight carried is left entirely to the discretion of the competitor, as the prize will be awarded to the model having the highest product of weight carried multiplied by the duration, *e.g.*, a model carrying 3 ozs. dead weight, and making a flight of 30 secs. duration (r.o.g.), would receive 90 marks, others in like proportion. Very consistent flying exhibitions have been given all through the past month, honours being evenly divided between the tractor and propeller types. Messrs. C. and A. Beere have obtained fairly good results from tractor monoplanes, and G. Brown has flown various twin-propelled floating tail models, some being very good, others have made the most extraordinary stunts, while his latest creation has an extremely flexible plane, and when the mono. is caught in a series of gusts, which frequently happens, the oscillation of the plane makes the model look like a flapping wing machine, but the most remarkable fact is however much the wings flap they do not disturb the model's course in the slightest. An r.o.g. and water mono. and a small tractor have been flown by E. W. Brunton, and a very promising tractor by E. Campbell. Mr. A. F. Chinnery, the popular exponent of "gull's-wing" monoplanes, has successfully exhibited a large 1 lb. "gull's-wing" and a smaller replica. Considerable interest has been aroused by Mr. A. B. Clark's experiments with an all-steel twin-propeller monoplane. One is really hard pressed to find something this model cannot do. It banks, performs hideous spiral dives and fine glides, has also flown as an elevator-leading mono., as a floating tail mono., and has also made several flights fitted with the elevator and floating tail combined, which, for a model, is rather a unique combination. Mr. F. W. Edwards has had fine flights from an "A" frame, and also from a large r.o.g. tractor. Mr. F. Evans is still persevering with his scale model Blériot, and hopes to have it in flying trim very shortly. A small 18-in. single-screw mono. has made several flights under the pilotage of L. Hatfull, who has also flown a very stable tractor. A twin-propeller hydro, a similar h.l. mono., and a single-screw machine have been flown by W. Jones, while A. D. Nicholls has obtained several quarter-mile flights from a twin-propeller biplane, and some of almost equal duration from a twin-propeller hollow spar mono., and has also exercised a r.o.g. hollow spar tractor. Mr. F. Plummer's twin-propeller hollow-spar mono. (4 ft. 3 ins. long) has made excellent flights, as has his 20-oz. tractor mono. (holder of South-Eastern Trophy). A very interesting mono. fitted with double-surfaced Morane-Saulnier wings, and a similar chassis, was brought out by R. France. Extremely satisfactory results have been obtained by G. H. Westwood from a *twin-tractor* mono., and also from several other single-tractors, one of them weighing over 22 ozs. He has also flown an elevator leading r.o.g. monoplane.

Southend, Westcliff and Leigh Model Aero Club (96, VALKYRIE ROAD, WESTCLIFF-ON-SEA).

Monthly Report.—Considerable advance and good work has been achieved by this club since its formation. The records at present are rather low on account of adverse weather. The club met for flying competition on Nov. 1st. E. Prockter out with his single-propeller h.l., and made a 30 secs. duration in a stiff wind. E. Louis was second with 23 secs. duration with a similar machine. Flying trials were continued on the 4th inst. Mr. Statham did 15 secs. with his floating tail racing mono. twin-propellers. E. Prockter with E.P. mono. 25 secs. at great height. New members will be heartily welcomed.

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Twickenham Model A.C. (74, CLIFDEN ROAD, TWICKENHAM).

1 Wickhamham Model A-2 (1941)—Despite windy weather during last month Messrs. J. Rice-Skinner, K. Hill, Kiddell and H. Clayton out with tractors, the first-named getting a h.l. flight of 250 yds., while R. Hill's A2 made capital r.o.g. flights and flat glides from 70 ft. in spite of squally weather. Last Saturday, when everyone was tired with the job of tuning up tractors, Mr. Maynard treated us to some splendid flights of 500 yds.—600 yds. with his new model (0-1-1-P2 type). The duration of this model must be about 80 secs. or thereabouts.



A Variable Pitch "Integral" Propeller.

ONE of the exhibits at the forthcoming Paris Aero Show which promises to be of unusual interest is an ingenious device invented by M. Chauviere, which meets the requirements for a variable pitch propeller, so essential in the case of dirigibles. We hope to give details of the mechanism later.

Chevilliard in Belgium.

A CROWD of about 25,000 people crowded the Ans aerodrome, near Liege, on Sunday afternoon to see Chevalliard give some exhibition flights, including looping the loop, &c., on his Henry Farman machine.

Russia Places Big Orders.

It is understood that the Russian Government has decided to order one thousand aeroplanes, to be delivered over a period of three years, and the bulk of these orders will be placed with Russian firms.

Aero Club of America Elections.

AT the election of officers of the Aero Club of America on November 10th, Mr. Alan R. Hawley was elected President, with Messrs. Cortland Bishop, MacCormick, Henry A. Wisewood and C. Jerome Edwards as Vice-Presidents. Up to date, the Ae.C.A. had issued 264 certificates. During the year 88 pilots qualified for certificates on aeroplanes, 13 on hydro-aeroplanes and three in balloons, while four pilots secured "expert" aviators' certificates.

A Model Aero Club for Wellington, N.Z.

MR. FRED FREEMAN, who writes from 126, Wallace Street, Wellington, New Zealand, would like to hear from anyone in or around Wellington, who is interested in model aviation, with a view to forming a practical model aero club.



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- 8,507. MACHENBACH AND SPRENGSTOFF A.-G. CARBONIT. Bombs to be dropped from aircraft.
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